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I.—THE FIELD OF ÆSTHETICS PSYCHOLOGICALLY CONSIDERED. II.

THE DIFFERENTIATION OF ÆSTHETICS FROM HEDONICS.

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ONE who has followed the argument presented in the first division of this article, published in MIND, N.S., for July, 1892, will grant, I think, that the search for a basis of separation between the Æsthetic and Hedonic fields has given us no satisfactory psychological result: this serves, therefore, to emphasise the *connexion* between the Æsthetic and Hedonic fields rather than their separation. But if this review has been unsatisfactory on the whole, it at least has brought into clear relief a remarkable *conflict of authorities* which deserves attention. Contradiction of dogma is so marked that one might believe Æsthetics to mean something quite different for the opposed dogmatists. But although in some cases attempt is made on theoretical grounds to use the term Æsthetics in a limited and unusual sense, it is apparent that the opposed theorists are dealing with the same psychological data. However diverse the mental fields which they consider may be, they overlap in many directions, and the ground which is common gives assurance that practically the same matter is under discussion by all.

This conflict of authorities itself argues, it seems to me, that the hedonic quality is the bond between these diverse fields. It argues once again that the *connexion* between the Hedonic and Aesthetic fields is more worthy of emphasis than their separation. For, in the first place, if this view be the true one, we are led naturally to the position that all fields of pleasure-getting are within the scope of the aesthetic.

Whatever difficulties may appear to the acceptance of so wide a view for one who holds the current Pleasure-Pain theories, no especial difficulty in this direction, it seems to me, occurs to one who will accept the theory which I defend. For one who thinks of pleasure as being a sensation or an emotion, or a psychic state of kindred nature; or for one who considers pleasure as a mental fact *sui generis*, a special kind of feeling (*Gefühl*); for either one I can see how difficult it might be to accept this, or in fact any hedonistic explanation of Aesthetics.

The aesthetic psychosis is so complex and so variable in its elements that it cannot be looked upon as an activity of a fixed nature brought into existence by, or in the process of, other activities as under such views must be the case with pleasure, and what is determined by pleasure.

But if pleasure be, as I hold, a special quality which, under proper conditions, may belong to any mental element, then complexity and variability present no obstacles whatever. For coexistent varied and varying mental elements may well be pleasurable, and by the process which we may legitimately call summation may aid each other in producing pleasurable complexes which shall be aesthetic.

Summation of Pleasure is nothing more than the co-presentation of varied elements which happen at the time to be pleasurable.

Granting then that all pleasure fields are to be considered, we see that if the aesthetic field is determined by hedonic quality we should *expect* to find the former varying with the character of the one who describes his field, for the hedonic field is known to vary from individual to individual. This variation has certainly been exemplified in what has gone before. Furthermore, upon making a survey of the theories which have been reviewed, one can trace, it seems to me, the influence of what, to borrow from Science, we may call the "personal equation" shown by the several theorists. It is the man whose mind is impressed strongly by the presentations of sense whom we should expect to find emphasising the sensual elements in

Art work, and in our own times, in which scientific investigation has brought the sensational elements into undue prominence in many ways, we should look to find the most thorough-going exponents of such a position. Mr. Grant Allen in his *Physiological Aesthetics* goes as far perhaps in this direction as any other writer. This is the work of a man whose effort up to the time of its writing had been turned largely in the direction of naturalistic research. German scientific workers, like Helmholtz, give us also good examples of this sensational over-emphasis.

Burke, though making "touch" the basis of many of his æsthetic qualities, gave on the whole the greatest prominence to the importance of the "love" element in Art, and Burke's life was one of philanthropic statesmanship; he had a strong predisposition to benevolence. Guyau takes similar ground,<sup>1</sup> and he comes of a race among whom the amatory passion is proverbially predominant. Kant's Universality may be mentioned here, apart from the theoretical position which it implied for him, as probably showing his own region of æsthetic pleasure-getting. We find again that the emphasis of the intellectual elements is presented by those whose minds are bent towards intellectual inquiry, and the fact that for most thinkers the centre of interest lies in their mental work accounts for the multiplication of theory in this direction. Hegel, making the æsthetic the immediate presentation of the Absolute to sensuous intuition; Baumgarten, looking to the field of obscure perception; Schelling, to the perception of concord—all show their mental bias. To pass to another field, it is the religious Cousin who makes Aæsthetics dependent upon the existence of a special internal spiritual sense, and Ruskin, the theistic devotee, who tells us that the representation of Divine Types is all-important.

Now it is evident that the mere pleasure field varies in much the same way in relation to each man's "personal equation," and in this we have the explanation of the divergence of view which we find, and a help towards the answer to our inquiry. Our field of pleasure-getting is determined by our capacities; as they vary so must our enjoyments vary. Examination will show that in the main there is a correspondence between the æsthetic field and the general pleasure field, which capacity determines. The barbarian loves brilliancy of colour and strength of contrast, and his crude art works show the qualities which give him his

<sup>1</sup> *Problèmes de l'esthétique contemporaine.*

fullest pleasure. His greatest interest, the chase, war, and the coarser passions, form the subject of his art, in the dance and in the earlier forms of representative effort; as his interests change, his art, the mark of his æsthetic field, correspondingly alters; the more delicate beauties of form become predominant in his art work when perfection of physical skill has shown its advantage over mere bigness or strength and has become the interesting feature for the race. The impulse which leads to the propitiation of gods, and makes their supposed satisfaction the deepest interest of life, leads to a glory of architectural art which accords with the power and might that men take the greatest pleasure in picturing.

The intense religious impulse of a higher kind, the satisfaction of which makes the interest of the middle ages, finds its correspondence in the subject of its art. The later times show a constantly growing delicacy of perception and emphasis of what may be roughly called the more intellectual interests of life, and art shows a corresponding change.

The general correspondence between individual and racial life would lead us to look for a similar change of æsthetic field with our own individual development, and this is clearly seen. The child rejoices in objects not very dissimilar from those that delight the savage; the youth shows more fully the appreciation of the emotional pleasures of art; the man must be full grown, however, to find his æsthetic field in the region near that of a Lessing. Thus we find in this view an explanation of the existence of strong opposing positions taken in different ages, *e.g.*, the Socratic emphasis of Usefulness as opposed to the modern exclusion of "Zweckmässigkeit". We are thus enabled also to explain the fact that men of different quality of mind differ so strongly in opinion in this regard; for it appears clear to us now, to use the words of the younger Mill, that "the sources of the feelings of beauty . . . must be to a material extent different in different individuals". Thus also we find explanation of diversity of view in the same individual as he expresses the different moods in which his mind works from day to day; as, for example, in Ruskin's emphasis of the useless in architecture in "Lamp of Sacrifice" as opposed to his principle of "Vital beauty" in the appearance of the *fulfilment of function* in living beings. Thus we find explanation of the difference of view expressed by thoughtful men as their mental attitude changes with their development. Note Matthew Arnold's strong emphasis of broad

mystic effects in Poetry in his "Maurice de Guérin,"<sup>1</sup> as opposed to his emphasis of concreteness in Poetry in his later work<sup>2</sup> as he grew to feel more strongly the influence of this keen scientific age. The Arnold in this latter position was another man from the Arnold of the former. In the latter case his mental attitude approached Lotze's, and he, possibly unwittingly, expressed somewhat Lotze's view. In the former case he spoke as a poet and expressed the importance of the indefinite mystic element in the aesthetics of poetry.

Thus again we see that increasing years going hand in hand with changes of mental capacity, or limitations of capacity due to intensity of application in certain special directions, must inevitably bring a man to a point where he can no longer gain delight in the fields to which the most cultivated men in their prime attach the greatest aesthetic value, and which to him at some time may have seemed of deepest interest. If he allow the name *aesthetic* to cling to that which the world calls aesthetic rather than to the characteristic, subjective mental attitude involved, he must find himself with Darwin mourning the loss of capacity for aesthetic enjoyment. But surely Darwin was wrong. Concentration of effort, advancing years, do not cut us off entirely from aesthetic delight, although they do change the mental region in which the aesthetic lies; and, what is of more moment, do render our aesthetic states less prominent because they limit directions in which mental activity is vigorous and in which therefore pleasure-getting is full or even possible.

*The Differentiation of Aesthetics from Hedonics.* We conclude, then, that there is no kind or description of pleasure which is not for one or another, part of what makes up the aesthetic psychosis. There is no pleasure or class of pleasures which we are able to say must be excluded from the aesthetic field in its widest sense, as it is shown to exist in the experience of the race. On the other hand, there seem to be for each individual certain pleasures which he individually does exclude from his own aesthetic field. So far as I can judge from an examination of my own consciousness I can say that no pleasure-for-me at any moment fails to become a component part of the aesthetic complex of that

<sup>1</sup> "Poetry can awaken it (a full sense of things) in us, and to awaken it is one of the highest powers of Poetry."

<sup>2</sup> Essay on Emerson: "He is not plain and concrete enough; in other words, not poet enough".

moment. There is no particular pleasure which I was experiencing a moment ago which I can say stood apart from the pleasures which during that moment thrilled me in what I recognised as an æsthetic state of mind. Common speech upholds this view, for we find the word "beautiful" applied to all sorts and kinds of objects which give us the most ephemeral of pleasures.<sup>1</sup> The Germans use *schön* in the same way and the French their more varied phrases in similar manner. On the other hand, however, I clearly do with others call certain states pleasant which are excluded from the æsthetic field, and this æsthetic field therefore I do separate in thought from the hedonic field. Why or how this separation is made is a question which must be answered before hedonistic æsthetics can be felt to be satisfactory or tenable.

We must note at the start that in undertaking this inquiry we change our standpoint in no small respect. No longer do we consider the make-up of the psychosis of æsthetic impression, but we are dealing with the matter of æsthetic judgment and the standards which judgment implies. The question before us then appears in this shape. If any species of pleasure whatever may be an element of an æsthetic psychosis how does it happen that we come to judge any pleasure to be non-æsthetic?

In the course of examination of others' thought which has preceded this, I have already referred to one characteristic of the æsthetic field, *viz.*, that of permanency. This characteristic is worthy of note because it is directly opposed to the nature of the hedonic field as it is generally conceived. The ephemeral nature of pleasure is the theme of the pessimist; is recognised by the optimist as a fact to be accounted for. The æsthetic field, on the other hand, is felt to be opposed to the pleasure field on this very ground, as is evidenced by the great number of theorists who uphold Universality, Absoluteness, almost Platonic Idealism as the basis of Æsthetics; how could they do so did not their experience give them knowledge of something permanent in the psychoses which they discuss? The æsthetic hedonist then is confronted with the question whether there be any such thing as non-ephemeral pleasure; whether there be a permanent pleasure field which is the *Æsthetic* field, and to which is opposed the ordinarily recognised field of Pleasure.

<sup>1</sup> Even an Idealist like Prof. Ladd (*Introduction to Philosophy*, p. 331) "yields the right to the Pathologist, from his professional point of view, to call 'beautiful' a preparation of cancerous tissue or of an organ filled with destructive microbes".

It seems to me clear that there is no such thing as a permanent pleasure. Pleasure, as elsewhere shown, is a quality which may attach to any element of consciousness; but not permanently. It is a quality which always fades away under unchanged relations of activity and capacity in the organ involved; the more vivid is the pleasure, other things being equal, the more rapid the fading; the outcome of the fading being either what is called "indifference," or pain. On the other hand, it seems to me equally clear that complexes of mental elements may in arising so arrange themselves by a shifting of the field of contents as to yield new pleasures to take the place of those which fade away, so that a relative permanence may be reached. This permanence, however, will still be only apparent, not real, close examination showing the impossibility of retaining the enjoyment connected with such a complex indefinitely. This kind of pleasure permanence, I think it will be agreed, is in some degree possessed by all important aesthetic objects. But there is another manner in which an effect of pleasure permanency may be produced, and one of very great importance to this consideration. There are likely to occur cases where a content is pleasurable presented whenever it is presented at all; where the revival is pleasurable at the moment of its appearance and does not at any time become painful. Not that it might not be indifferent or painful under the proper conditions, but that in fact it never is, but is withdrawn from consciousness whenever painful and for the most part even when indifferent. Such appearance of stability may readily obtain if the source of stimulus is within our control so that we may avoid the stimulation as soon as it brings other than pleasure to us; a condition which obtains in all fields of art, and pre-eminently so with the arts dependent upon the organ of sight, which thus have an advantage over the arts connected with the ear, where stimulation cannot be controlled by covering the organ (as with the eyelid) or by simply turning the head, but only by much more complex and less automatic movements.

It seems not unlikely that we have here the basis of the distinction which is made between the *Aesthetic* and the *Hedonic*. It may be that what is permanently pleasurable in revival (relatively speaking) is termed *Aesthetic*; and what is not thus permanent is termed non-aesthetic. When we ask ourselves the question: "Is this *aesthetic* or is it not?" we clearly are dealing with comparison within the field of revival; the lately presented is compared with a standard, and included with or excluded from its class as

the case may be. If this view be correct it is what we call "the lately presented pleasure" which is compared, and that with which it is compared is a field which relatively is permanently pleasurable in revival.

But if the "lately presented pleasure" is in any case excluded from this field of pleasurable revival, it must be because it is in reality no longer a pleasure. How comes it then that we call it a pleasure? Pleasures obtained by direct stimulation are not necessarily pleasures in revival.<sup>1</sup> This change, however, is not always connected with a corresponding dislocation of the *word* Pleasure, which may, and often does, continue to cling to much which no longer brings pleasure for us in its revival. Much that is brought up in revival spontaneously when we think of "pleasure," or when we make recognition of the enjoyments of others, is no longer a pleasant revival for ourselves. These revivals to which the name "pleasure" still clings, but which are not pleasant in themselves, it appears to me are what we cast out as non-aesthetic.

For me apparently the process is this: 1st. I class all that as aesthetic which is pleasurable in revival, with no painful and little indifferent tendency; in other words, *the relatively permanent field of pleasure in revival* is that which I call my aesthetic field; all else is non-aesthetic. What is indifferent in revival I tolerate only as an adjunct; what is painful in revival I cast out of my aesthetic field entirely; I do not judge always a work non-aesthetic because of a painful element in its revival, but I exclude that element as non-aesthetic. 2nd. Those revivals I call hedonic and not aesthetic to which the name "pleasure" clings in any way, either because I remember the original to have been pleasant or because of the recognition of the enjoyment which they bring to others, but which for me in revival are not pleasant but indifferent or positively painful.

Now all this refers to and describes the field of aesthetic judgment, but, as already noted, is strictly speaking apart from the field of actual aesthetic presentation. Every

<sup>1</sup> It must be noted here, as I have argued in my discussions concerning Pleasure, that a revival is not necessarily pleasurable, because the impression of which it is a revival was pleasurable; nor was the original impression necessarily pleasurable because the revival is so; the pleasurable ness of any mental element depends upon conditions which may alter from time to time so that recurrence of a content does not necessarily imply the recurrence of the Pleasure-Pain quality which held with any one impression of that content.

argument goes to show that in the latter any pleasure which is a pleasure at the time for the one to whom the æsthetic object is presented, does have to do with the make-up of the essential nature of the æsthetic effect. The difficulty which we have been considering would, therefore, appear to arise from a failure to distinguish the field of *Æsthetic Impression* from the field of *Æsthetic Judgment*. From the former no pleasure that occurs for an individual at a given moment can be excluded. From the latter all that is not pleasurable in revival is to be excluded, and this cuts off much to which the name "pleasure" persistently clings.

The relative permanency of the æsthetic field, as opposed to the ephemeral nature of ordinary pleasure thus explained, gives us then apparently a solution of the difficulty which remained in the defence of hedonic æsthetics, and we are led to the general statement : *Each one's field of æsthetic judgment is his relatively permanent pleasure field of revival.*<sup>1</sup> I say *relatively permanent* because it is very evident from the nature of pleasure that true permanence here is impossible of realisation. If each individual pleasure is ephemeral so must the pleasures of revival be ephemeral *per se*; there will, however, always be revivals which are pleasant for the time, and objects which are judged to be æsthetic will be those which in reflexion are pleasurable at the time of their revival. It will be apparent, therefore, that this æsthetic field, if I have described it correctly, must be constantly changeable as we have found it to be. It must alter with those conditions that render variable the nature of the revivals we are to find pleasurable. The racial changes from age to age which development implies, with the necessarily connected alterations of mode of life and habit of thought; the differences of national life, of education, of occupation, between tribes and families; the differences of environment, of habitat, of wealth; the differences of individual life, and, in that life, of years—all should show us differences of standard as to what is æsthetic; for each will show differences in the character of the mental revivals, which will be pleasurable. Who can deny that just such alterations of the æsthetic standard are to be found varying in relation to the differences of life and thought thus sketched out? For each man there is indeed, for the time

<sup>1</sup> The reader will bear with me if I again remind him that this is not the same as the field of the revival of pleasures as often understood, *i.e.*, of contents once pleasurable but which in revival may not be pleasurable at all.

during which he is engaged in an examination of his mental life, a semi-permanent field of contents which remain pleasurable in revival and which are revived when he questions himself as to what is his æsthetic field. But even this field of the time, when reviewed in retrospect, shows its alteration in comparison with what he can remember to have made up the æsthetic field of the past, and to the fact of this real non-permanency, it seems to me, is due the difficulty which is found in defining the field, so that in reality its description is usually indirect by the statement that one object is, and another is not, within its bounds.

This matter of æsthetic standards we must consider more at length. As we have already seen, under this view, the field of æsthetic Impression is a very different thing from the field of æsthetic Judgment. From the field of æsthetic Impression (A) we are able to exclude no pleasure, whatever be its character, unless it bring in with it *at the time* an overbalance of pain. Any pleasure which can in any way be brought into connexion with the pleasurable complex so that it forms part of the co-presentation or follows in its associative train, by this fact becomes part of the field of æsthetic Impression. The field will be wider and more vivid than that of æsthetic Judgment. It will be notably "presentative," as this word is commonly understood in opposition to "re-presentative". The pleasures of sense will enter notably into its complexes as they are the most vivid of pleasures; but, on the other hand, the pleasures of revival, will not be excluded from the field. Many impressions which are pleasant in themselves but not pleasurable in revival and which, therefore, will be excluded from the field of æsthetic Judgment, will be included in the field of æsthetic Impression as part and parcel of the totality.

The field of æsthetic Impression is of far less interest, however, than the field of æsthetic Judgment; the ephemeral nature of Pleasure, and the variation which this implies in the character of the revivals from which we are able to gain pleasure, would lead us to look for a field of *Individual æsthetic Judgment of the Moment* (B), covering any complex, wide or narrow, which for the individual gives a pleasant revival at any special time. This must in its nature be very variable; it is the field of revival made use of when we make off-hand judgments in æsthetic matters. But this field will be recognised as abnormal so far as it differs from the *Relatively Stable æsthetic Field of the Individual* (C), which is the basis of the judgments we make after reflexion and which determines our personal

taste. From this field will naturally be cast out all that reflexion shows us to be painful in any well-recognised case, or indifferent in all but unusual cases. To this field we look in the careful comparison which goes with the analysis of a work of art, while the æsthetic field of the moment is the basis of our casual everyday judgments. It must be noted that we are still dealing with a field which is only relatively permanent, which is liable to change from year to year, and in a lesser degree from day to day. Few of us ever realise this variability of individual taste, but as soon as we do we refuse to be satisfied; we ask for something more certain and stable. We do not care so much what a person's individual judgment is, as what it ought to be. It is here that the opponents of Hedonism make their most vigorous attack. Hedonism, say they, shows us no difference between taste as it is and taste as it should be; if pleasure be your criterion you must give us a guide as to what *ought* to please; otherwise you sweep away all difference between what gratified you and the true and noble Beauty.<sup>1</sup> I am perfectly willing to grant that this objection is well made against any æsthetic hedonism which would at the same time defend Absoluteness of Æsthetic standard; but the weight of the objection bears against Absolutism in Æsthetics and not against æsthetic hedonism, which the facts appear to me to favour altogether. I grant that if one is to be a Hedonist in Æsthetics then he is compelled to abandon Absolutism psychologically, whatever position he may take from a metaphysical standpoint. But the Hedonist in Æsthetics is not at a loss for a standard. His standard, to be sure, is more liberal, is less dogmatic than that which the Absolutist aims to describe, but it has an existence of very decided vitality; it has an objective stability at any special moment which gives it worth, and I find it not less, but more valuable, than the Absolutist finds the hypothetical *quasi-Platonic* Ideals which he aims to approach. To reach this æsthetic "ought" of the Hedonist is no very simple matter. The average man never reaches it. He is the most ardent of Absolutists. His own personal taste he believes to be a reflexion of this certain fixed Absolute, and if others differ from him it is in his view because they are thoughtless or are led by other than æsthetic influences, or are not sufficiently cultivated to appreciate what is good. What we have just here described he is content to do always, *viz.*, to deal entirely with his own subjective

<sup>1</sup> Cf. Von Hartmann, *Æs. S. Kant*, p. 354.

standard; when he would have something more stable than individual taste, he canonises his own taste and makes this the standard. The logical Hedonist, when he feels the need of a more stable criterion than his own taste, turns from his own field to an objective field; the field of the *highly cultivated man as he conceives him* (D); the field which every philosophic critic must acknowledge apart from his own individual taste if he is to treat Art subjects with any breadth. The individual peculiarities of his own field, whilst none the less effective for himself, must be treated as individual rather than general; and his criticism be determined by reference to a broader field which contains all that is common to those for whom he speaks. It is not often, however, that he himself recognises the non-personal nature of this standard.

This standard, it must be seen, is still changeable, unstable; but it is *relatively* unchangeable and stable. It must vary with width of experience, of education, of refinement. It changes as a person limits his notions of life and of the universe, or as his views become broader and more sympathetic. It alters with his change of conception as to what is worthy in the world surrounding him, and as to the sincerity and value of other people's beliefs, and in the end it will be found to be largely determined by his ethical conceptions. As Wundt says, "Effectiveness of higher æsthetic representations depends always upon the arousal of moral or religious ideas".<sup>1</sup> It is thus that Taine, though no hedonist, would have us measure a work of Art by its importance and beneficence, that is, its power to develop and preserve the individual and the group in which he is comprehended.<sup>2</sup> It is thus that Fechner would have us make our own final standard of Æsthetic valuation dependent upon our conception of what on the whole has the best outcome for the well-being of mankind for Time and Eternity.<sup>3</sup>

In emphasising the value of the recognition of others' standards, however, we must not overlook the fact that individuality of field is none the less important, for upon it is dependent the *ideal æsthetic field* (E). This Ideal field, from our standpoint, must be a variable one differing for each individual; no Absolute as usually conceived; no fixed objective Platonic Ideal towards which we weakly strain, but

<sup>1</sup> *Elements of Phys. Psy.*, ii. p. 221.

<sup>2</sup> "Ideal in Art."

<sup>3</sup> Cf. *Vors. d. Æst.* End of vol. i.

the field which in some direction differs from the normal field and in which direction the individual feels that the world *ought* to agree with him. Each one of us, however prosaic, has some sort of an Ideal field of this kind; non-agreement with it in others looks like Aesthetic error. So firmly rooted is this belief in one's own Ideal that intolerance is proverbial among artists and connoisseurs; intolerance which is often amusing to one who looks at the subject from a student's standpoint. Once in a while an individual Ideal when expressed enlightens the world of Art. The artistic genius is the prophet who shows to others an Ideal field which they recognise as effective for themselves, and which but for him would have been unknown to them. To express his own ideal must the artist work. He must indeed produce effective results in the field of presentative aesthetic enjoyment (A), but if his work is to be of importance it must go beyond the momentary effect; it must compel recognition as part and parcel of the stable field of pleasurable revival (C), and must not stand opposed to the objective standard which is given by recognition of the value of the opinion of others whose cultivation entitles them to speak with authority (D); if, however, the work of an artist is to be recognised as that of a master it must express an Ideal (E) which the common mortal, however highly cultivated, does not and cannot reach of himself, but which he will recognise when it is reached by another as an enlightenment of his own duller conceptions.

In what has preceded it has already appeared that if the hedonistic view be adopted we must look for diversity of opinion, for descriptions of the aesthetic field widely separated and even contradictory, because the aesthetic field is really a very different thing for different individuals. It will be well to note how far this theory aids us in accounting for the existence of the theories which we have already examined while looking for an aesthetic basis. Bald Sensualism need not detain us; although it is worthy of mention as an indication of revolt against those theories which would exclude the sensational field entirely from the Aesthetic, and as implying a conviction that the sensational pleasures really make an important part of the aesthetic psychosis of presentation. Those theories which by over-emphasis of the function of the sense-organ appear to savour of sensualism are in most cases really rationalistic rather than sensational. The opposition to sensationalism, on the other hand, however, is important. The casting out of sensational pleasures from the aesthetic field by authoritative thinkers cannot be

ignored; it must have a basis in psychologic experience. In terms of our theory it indicates that many well-marked sensations which are pleasurable in presentation are not pleasurable in revival. It is to be noted that the sense-pleasures which are cast out are those of the so-called "lower senses". The pleasures of retinal or aural stimulation, or those closely connected therewith, are not the ones against which our anti-sensationalist raises his voice. His objection is to the inclusion of the sensations of taste and touch, especially in their grosser modes, and he drags all the rest of sensations after these. This appears to me to explain the whole position. For the developed man of to-day the so-called "lower senses" *do* bring pleasure in presentation, and often in what we may call primary revival, induced by the representation of objects which would produce the presentative pleasure. In revival of reflexion, however, there are many associated psychic elements, largely ethical, which rise in painful opposition to any such cherishing of the revival as continuance of its pleasure implies. The whole mental state can scarcely be a pleasant revival under ordinary conditions, but must generally appear painful; and as such will be cast out of the æsthetic field of judgment.

The elaboration of any theory is dependent upon emphatic processes of reasoning. The writer and thinker on æsthetic theory must have a decided intellectual bent. Rationalism and Intellectualism thus appear natural as far as the writer allows himself to be carried away by the influence of those mental phases which are most predominant for him. Further, the mental states known as intellectual are pre-eminently those states in which we deal with revivals, and thus one turning to introspection for corroboration of theory finds evidence that the *Æsthetic* field is intellectual, imaginative, contemplative, as he emphasises respectively the relational side of the contents of revival, the contents themselves, or the fact that his *Æsthetic Judgments* are connected always with reflexion.

The theory which would identify *Æsthetics* with Emotionalism is really a Hedonic theory, for it is based upon that mistaken analysis of Emotions which identifies them with, or treats them as, compounds of pleasures and pains. This faulty analysis leads to the use of the word "emotional" to describe roughly any complex of pleasure. The theorist hence naturally calls his pleasurable æsthetic complexes "emotional," and finding upon examination that certain of the typical emotions are distinctly important and relatively permanent in the make-up of his most notable

aesthetic states, he takes this to be sufficient evidence to sustain his position. Formalism, as already noted, seems to result from a grasp of the truth that the basis of aesthetic effect cannot be in the "Content" or in any special limitation of "Content"; that it is based upon some quality which runs through all "Contents". But to most formalists the objections to Hedonism appear too great to lead one to look in that direction for a solution of the problem. The determination of *Aesthetics* by reference to Ethical or Spiritual types arises apparently from the personal bias of the theorist, for whom everything in life must conform to ethical theory, and from an unwillingness to believe that any field so wide, and which is judged so important by the mass of men, can have any other basis than that which is for him at the foundation of all things. The claim that all usefulness to the observer must be excluded if an object is to be aesthetic—the insistence upon disinterestedness as an element of the aesthetic psychosis—is based upon the fact that pure egoism of all kinds for the serious thinker of to-day is painful in revival because it is obstructive to the sympathetic impulses which are so important to our modern social life. The theory of Passivity, so far as it is not explained by the width of unmarked attention which forms the broad background in the aesthetic psychosis, is probably based upon the psychologic observation that the revivals of states in which we appreciate reaction upon the environment furnish too emphatic and narrow fields of attention, too much concentration, to permit of any appearance of permanent pleasurableness; in other words, the fields of relatively permanent pleasurable revival are so pre-eminently the fields of passive appreciation that ground is given for the hypothesis, which, however, as we have seen, will not bear close examination. The theory of Immediacy indicates an appreciation of the fact that the aesthetic judgment is determined by no complex process of reasoning, is no remote result of intellectual action, but is grasped mentally as simply as the very widest *quale* of presentation, and such a wide *quale* Pleasure is.

Where one makes the distinction between higher and lower pleasures, and bases upon the distinction his definition of *Aesthetics*, he appears, as already stated, to be merely renaming his terms and restating his problem. He calls those "higher pleasures" which in reflexion appear worthy of continuance because their pleasurableness is not painfully opposed by other associated revivals—in other words, those which are permanently pleasurable in revival; and in so

doing he thus describes his æsthetic field of judgment. As above suggested, theorists who from metaphysical considerations have adopted general Absolutism or Universalism find it possible to make Æsthetics fit in with their formulas, with corroboration from their psychologic experience, which tells them of the *permanency* of the Æsthetic field ; the fact that this permanency is relative only—is apparent and not real—being lost sight of. Further colour is given to such a view by the fact that the Art worker feels that he is aiming to grasp something which exists, of which he has suggestions and for which he makes search until he can lay hold upon it. He works out a veritable blind impulse to create, to produce an object ; knowing not and caring not that the characteristic of this object is to be this,—that it shall bring permanent pleasure in revival to those whom it is to affect. He may and does gain pleasure in his work, but that he feels is not his aim. He eliminates himself and works to produce that which is to affect others. He thus feels that his effort is separated from the production of effects merely agreeable to himself ; that it is disinterested ; that it represents some Ideal common to the race of man ; that his striving is to picture some Universal, some Absolute. This position is strengthened by the fact that the mere grasping of a so-called Universal through its particulars is felt to be of importance in Æsthetics, as is shown clearly in the prominence which is given by so many thinkers to the principle of the "Unity of the Manifold". The explanation of this prominence does not appear to be difficult but must be deferred.

A most fruitful lesson is to be learned from this whole discussion, *viz.*, a lesson of liberality. As we have seen, the Æsthetic field of childhood is not that of the youth, nor that of youth the same as that of the man of mature years. Differences of cultivation and of point of view must be constantly taken into consideration. We must not expect that others will agree with us in our revival pleasure-getting, except on broad lines. The failure to recognise this fact is often a serious loss. The belief that beauty is something absolute which he has mastered brings to a man fulness of ennui, and too often cynicism when he finds what he has learned to consider pre-eminently valuable begins to pall upon him. Such is the position which too many a critical mind reaches, and which would be avoided could the critic but look beyond the standard which he himself has set, and take cognisance of the manner in which his æsthetic field alters and develops as he grows in constitution of mind

and life. We learn also the futility of attempting to force standards upon others. We too often expect youth, or those of low mental ability, to appreciate beauties which can be grasped only by men of capacity, who have given their years to acquirements which make appreciation possible; and as a result we produce disgust, most seriously opposed to development, or insincere pretence of appreciation which is evidently immoral in effect.

In closing it will be well to say a word in retrospect. We saw at the beginning that non-hedonistic theories of aesthetics as thus far propounded had failed to deal satisfactorily with its problems. That pleasure is always present in all aesthetic psychoses we found acknowledged, and by comparison of the views of thinkers it has appeared clear that no class of pleasures can be held to be essentially non-aesthetic. That there exists not only a theoretic but a popular aversion to the treatment of Aesthetics as essentially hedonic is acknowledged. I have tried to show that the theoretic objection disappears if we differentiate the hedonic field in general from the aesthetic field upon the basis of pleasure permanency in revival, which must belong to the latter and may not belong to the former. I have also tried to show that if this position be correct we are enabled to account for the genesis of many theories which have been defended in the past.

Incidentally it has appeared that the theoretic opposition to hedonic treatment of Aesthetics has been increased, if not occasioned by an incorrect and inadequate view as to the nature of Pleasure-Pain, held by Aesthetic theorists. The still more complete misunderstanding of hedonics by the "unthinking herd," to use Berkeley's term, is sufficient to explain the popular disinclination to the acceptance of an Aesthetics which is based upon Pleasure. Holding pleasure to be a sensation, or looking upon it as an emotion exclusive of sensation, it is clearly impossible to identify with pleasure Aesthetic effects which for the most part deal with what is recognisably non-sensational, and with what must be classed apart among emotions if it can be called emotional in any respect.

Having reached this position, the natural continuation of our argument seems to require us to show that aesthetic practice conforms with the principles relating to Pleasure-Pain which have been already enumerated, and to this we shall turn in an article to follow this.

## II.—LOTZE'S ANTITHESIS BETWEEN THOUGHT AND THINGS. II.

By A. EASTWOOD.

WE saw that Lotze opens his speculations with the proposal to neglect for the time being any inquiry into the content of the ultimate and concrete truths of philosophy; he intends at the outset merely to investigate "the grounds on which in a subjective sense" the certainty of those truths "for us repose". At first sight it may seem ungracious to raise any objections to this apparently modest demand; but in philosophy it is as dangerous to be content with too little as to want too much, and if, by conceding to Lotze this preliminary indulgence in self-depreciation, we allow him to limit himself to the "subjective sense" of truth, it may very conceivably result in his throwing dust in our eyes and his own. His reason for beginning as he does is contained in the confession that his attitude towards ultimate questions about reality is tentative and not based upon absolute certainty. But is such an appeal to human fallibility permissible? A mathematician or a chemist might without injuring his reputation avow that, as a human being, he was liable to error; but if, on that account, he proceeded to give reasons why he, in a subjective sense, merely *thought* certain things might be true, thereby implying that after all he might be utterly at sea as to the real nature of his subject-matter, he would meet with scant respect. And the philosopher who casts a doubt on the intrinsic certainty of *his* science is still less entitled to a hearing; for philosophy accepts all the data of the special sciences to begin with, and proceeds to make certainty more sure by exhibiting as confirmatory of them the fundamental truths of knowledge and reality as a whole. In the performance of this task its main duty is to show how the contents of experience are enlarged and re-interpreted by reflexion on the fact, disregarded by science, that truths are necessarily for a thinking subject—a very different thing from treating the subjective aspect of knowledge in abstraction from its objective contents. It may be retorted that every philosopher is at liberty to choose his own method, and that if Lotze wishes to begin with an abstraction which he intends afterwards to supplement, I have no right to object. I reply

by pointing out that Lotze's method of beginning virtually amounts to cutting away the ground from under his feet. It is a method which no one would tolerate in the special sciences, and which ought to be recognised as equally intolerable in philosophy. For by postponing the question : What actually *is* philosophic truth? until we have answered the question : What are the subjective reasons for our *thinking* certain things to be true? we at once open the door to the sceptical doubt "whether," to quote Lotze's words on p. 416, "after all, things may not be in reality quite otherwise than thought makes them". Lotze is fully aware of the "barrenness" of this doubt, and rightly shows that scepticism, unless in inconsistency with itself it be based on dogmatism, is doomed to silence. But, owing to his confident belief that the "subjective" side is not the whole of the matter, and that he can, later on, give us assurance of real objective "things," he seems to forget that all the time he is confining his attention to the "subjective sense" he is making that very hypothesis against which the doubts of scepticism retain their full force. The dangers of thus playing into the enemy's hands at once make themselves felt.

The immediate effect of the liberality of Lotze's concessions and the modesty of his own endeavours is to raise a presumption against the objective validity of knowledge, because cognition, by its very nature, must have a subjective aspect. Hence arises a tacitly implied opposition between truth "in a subjective sense" and truth as regards real objects in themselves, which is equivalent to a distinction between the grounds of the belief in the reality of an object and the grounds of the reality of the object itself. Against which insidious supposition it must be flatly maintained that—setting aside as irrelevant accidental circumstances which may have led to the acquisition of a particular piece of knowledge by a particular person—the grounds of a person's belief in the reality of a thing are for that person the grounds of the reality of the thing itself. Or, quite generally, it is impossible to deny that what human beings *believe to be* the truth *is* for them the truth. It is easy to show the futility of the rejoinder that we are here speaking only of relative truth, *viz.*, truth relative to us, and that the truth of absolute reality may be quite different. For this latter distinction between absolute and relative truth is only possible in virtue of the primary relativity of all truth to the mind. The Absolute itself is relative to knowledge, because the relativity of knowledge is absolute. There is no avoiding the fact that reality derives its entire truth from

its reference to our minds. Instead of distorting reality, human cognition gives it its very life. The truth of this remark is always obtruding itself in philosophy, generally in an inconvenient and somewhat unpleasant manner. The difficulty should be courageously disposed of, as soon as it occurs, by a frank theory of the relation of the finite to the Infinite Mind—or to whatever is regarded as taking the place of an Infinite Mind. Unfortunately Lotze postpones his treatment of the subject until he has come to the end of his speculations, and is summing up their results in a philosophy of religion. He seems scarcely aware that he thus falls into an awkward dilemma. If all that he says about "thought" and "reality" in the *Logic* and *Metaphysic* is to square with his religious theory of the relation of the finite to the Infinite Mind, he has virtually settled this latter question before he begins to discuss it; and if, as is really the case, his theory of the human and Divine Minds is set up independently of all his scattered logical and metaphysical utterances on the question of the relation of "reality" to human minds, the justification for these logical and metaphysical utterances is never forthcoming. Lotze seems to have unconsciously succumbed to the temptation to temporise. It is so easy to defer the question of the ultimate significance of thought with a provisional answer. For two facts are dangerously obvious : (1) that our thoughts are limited or finite ; (2) that there is in this world of reality something more or other than those thoughts, *qua* finite. Hence, on the easy assumption that what cannot be referred to (1) must be explained by (2), Lotze is always ready to supply the deficiencies of finite thought by an appeal to a "something more," which he finds ready to hand-in what "common-sense" calls a "thing". But that is to shirk the difficulty, because it takes for granted, without explanation, the apparent paradox that our thought, though never able to escape its finitude, is yet aware of (2). The only possible explanation is to show that our thought is not only finite, but also, in a sense, unlimited or infinite—which would at once bring us to the relationship of God to man, and so lead to a reconstruction of (2). As long as a philosophy neglects to settle this problem, it cannot hope to invest its conclusions with clearness or finality. Lotze's reluctance to close with this ultimate yet fundamental question to a large extent explains the prevalence of that vague feeling of self-distrust and deference to some superhuman power to which I have alluded. This feeling finds an outlet in the *Metaphysic* in the frequent exclamation : " Reality is

greater than our thought!"—which, in his philosophy of religion, becomes converted into the observation that God knows more than man, or that man possesses in but a faint degree that true personality which belongs to God alone. Every one must recognise the truth contained in such expressions; they do not, however, afford any principle of explanation for philosophical problems. It is only out of the data of human thought that we can understand "reality" and God. If those data contain an *ignotum*, that *ignotum* cannot be explained by what must, *ex hypothesi*, be an *ignotius*. Now Lotze inevitably commits himself to a false explanation of this kind, because by narrowing down thought to its subjective or finite aspect he is compelled to supply its deficiencies by aid of an external world of "things". In the language of religion, the maxim "God knows better" is always looming before his mind as a barrier to the attainment of a better knowledge of God. He seems to think that part of the reality of the Real may consist in its being, for us, incognisable.

And, apart from the dangers for which it paves the way, is it possible to discuss the nature of ideas as though it had nothing to do with the nature of objects? I think not, for these reasons: Call objects A and ideas B; Lotze proposes to treat B by itself; but that is permissible only if it be established that B has a nature of its own and is independent of A; if, on the contrary, A is indispensable for the existence of B—and Lotze insists that ideas must be supported by "objects" in the shape of either "things" or "a single unknown power" (*Logic*, pp. 460-1)—B can only be understood when viewed in its intrinsic connexion with A; to treat ideas *per se* is to make the unwarranted assumption that they have a nature independent of that objective reality which "supports" them. (To the possible objection that two things, *e.g.*, A and B, cannot be viewed in connexion if they cannot be viewed apart, I reply that A and B are not "two": an idea is nothing save in so far as it is an idea of an object.)

There need, however, be no harm in conceding Lotze's postulate that, whatever be "behind" them, it is always with "ideas" that we have to begin, providing that we make it clear that we are granting an absolutely empty concession. "Idea" means that which is referred to a mind; in this sense everything of which we can speak is an idea; but, since this fact of reference to a mind is exactly the same for one thing as for another, to observe that knowledge is of ideas, *i.e.*, of things referred to a knowing mind, is to make a perfectly

identical proposition, which offers no starting-point for a logical theory, much less affords a justification for splitting up reality into two and treating ideas as possessed of an independence of their own irrespective of real "things".

But, as I pointed out above, Lotze imports a good deal of meaning into the expression "we know only ideas". Now as soon as any meaning is allowed to creep into this innocent-looking proposition it must at once be challenged, in order that we may scrutinise the metaphysical assumptions it contains. But it would be an endless business to collect the numerous passages in which Lotze makes use of this phrase, and criticise each distinctive shade of meaning. I therefore proceed at once to criticise that important passage, quoted above from p. 421 of the *Logic*, where he expressly states the significance which the so-called limitation of knowledge to ideas has for him, and thus enables us to see at a glance that his opinion as to the nature of that limitation is really far from being self-evident or a truism. Impartial that statement certainly is; but its impartiality seems to me to consist in this, that it involves the person who accepts it, whether he elect for the Idealistic or the Realistic alternative, in a hopeless dilemma. Let us take the case of the Idealist. His knowledge consists of (1) the ideas within his own mind, together with (2) the knowledge that a world external to his own mind does not exist; but, if he possesses (2), he must also possess something else, *viz.*, (3) the *consciousness that* his ideas are within his own mind; but it is impossible to know something to be within the mind except by contrast with (4) something known to be external to the mind, which contradicts (2). Of course this argument has been a matter of ancient history, ever since the appearance of Kant's "Refutation of Idealism". The position of the Realist is palpably suicidal. He too (1) knows nothing but the ideas within his own mind; but he also (2) knows real things as existing external to his mind--which is absurd. And what is the moral of this apparently disastrous conclusion? Certainly not that the truths of philosophy are beyond our comprehension, but simply that we must take the trouble to understand how the fact that we do comprehend them is possible. Instead of taking up haphazard the first popular notion of the relation of thought to "things" which comes to hand, we ought at the outset to settle once for all the significance which the fact that we are conscious beings has for the objects of which we are conscious.

I have tried to show how ambiguous and misleading is the

proposition "all we know of the external world depends upon the ideas of it which are within us"; if it be a sign-post erected at the parting of the ways between Idealism and Realism, it is one of those disagreeable sign-posts which neglect to add the caution that people who follow either direction will end in the mire. The "common ground" on which it is erected is the common prejudice latent in the expression "knowledge under whatever form can never be things in themselves but only represent them". We must now observe what that prejudice is. That knowledge could never *be* things in themselves is perfectly true, because things in themselves are, if they exist at all, a manifold of particulars; whereas knowledge implies a universalisation of particulars, and a *unity* of a manifold, which as such can never *be* a manifold. But just for the same reason it is true that knowledge can never *represent* things in themselves. A unity of a manifold is a whole, one and inseparable; but a whole can no more represent any of its parts than it can be any of them. But surely, Lotze would interpose, thought must *at least* represent things! Let us beware. As I have pointed out above, Lotze establishes these two positions that thought is, in the first place, *only* representative, and, in the second place, is *at least* representative of "things," by forcing us to choose between two "common-sense" alternatives and taking it as a "matter of course" that his two alternatives exclude the possibility of any third. The plausibility of this reasoning is really due to a vicious application of what Hegel calls the argument from the "either . . . or" of the abstract understanding. The demonstration of Lotze's first point seems to be as follows: (1) Thought must in some way be connected with things; (2) therefore it must either (a) *be* things or (b) only represent them; but (3) it cannot *be* things; therefore (4) it must only represent them. Now (1) and (3) are true, but (4) is false because the disjunction of (2) is incomplete; the true alternative would be —or (c) thought must be the unity for which the manifold of things exists. And Lotze's second point, that thought *at least* represents things, is maintained by a similar argument: (1) either thoughts represent things or they do not; (2) the supposition that they do not would be intolerable on many grounds; (3) therefore we must assume they do. Here again the disjunction of (1) is arbitrary or incomplete. It can only be taken as complete if the "not" is that stupid "not" of Formal Logic called the bare or absolute negative of dichotomy. It is, of course, impossible to negate an infinite negative of this kind by a positive proposition such as

(2); and it is obvious that with Lotze the negation of the proposition "thought represents things" is not at all formal; it has a very positive content, *viz.*, the idea that between thought and "things" there is an impenetrable barrier. That *this* proposition is intolerable every one must admit; but now the disjunction of proposition (1) is incomplete, and therefore the conclusion of (3) is unproven. Or we may say the argument involves a *petitio principii*, proposition (2) and not bare dichotomy being the real basis of the disjunction.

I have dwelt at some length on this particular fallacy not merely on account of the serious disasters which follow in its train, but also because it is typical of Lotze's usual method of argumentation. It is his constant habit to take up one by one various theories upon a subject, prove that all save one will not hold water, and then assume that that remaining one, usually dogmatically asserted by himself, must be right. It is a method which may be Aristotelian, but it can never be satisfactory; for after all its conclusion is only one, possibly the most plausible, out of a number of particular suggested alternatives, and can never be shown to be the one necessary and only solution. The absolute certainty of *a priori* necessity can only be attained by what has been called a "critical regress," *i.e.*, an exposition and solution of opposing views by an exposition of the grounds out of which the apparent oppositions and contradictions involved in them arise. For example, we can never finally settle the relation of thought to "things" until we have undertaken an inquiry, in the Kantian spirit, into the conditions of the possibility of experience. Lotze neglects to do this; he never undertakes a theory of cognition in that widest sense in which it must embrace within itself cognition of thoughts and cognition of things. His treatment of thought in *Logic*, bk. iii., only recognises thoughts in that narrower sense in which it is already tacitly opposed to a world of "things"; and similarly he treats "things" in the *Metaphysic* in that narrower spirit which is never tired of reiterating "a thought is not a thing". That regress to a higher point of view, from which it is possible to form a synthesis of the two, he holds to be an achievement beyond the power of himself or any other man; but he finds in the sequel, when religious considerations come to the fore, that it is impossible to do without such a synthesis; he is therefore compelled, out of consideration for his previous self-abnegation, to throw the onus of effecting it upon God.

Curiously enough, Lotze has no sooner committed himself

to his fatally biased view of "ideas" than he exhibits a scrupulous anxiety to steer clear of the prejudices latent in the expression "we know *only* phenomena". But, as I have previously pointed out, this discovery that he is dealing with ambiguities only comes upon him as an after-thought; it does not in the slightest degree induce him to reconsider his previous assertions on the representative character of knowledge. His caution, then, on p. 431 only amounts to saying—let us remember that we have not yet committed ourselves to either Idealism or Realism; which, being interpreted by the light of his previous utterances, means—let us conveniently forget that our suppositions as to the representative nature of knowledge involve the dilemma that either "things" are real but unknown (Realism), or "things" are known to be unreal (Idealism). His profuse assurances throughout the *Logic* that his mind is open on the question What is *behind* ideas? are quite gratuitous, because his prejudices on the question: What are ideas themselves? remain unshaken.

How is it possible to understand knowledge when we have made it representative of something which we do not yet know? This difficulty Lotze endeavours to surmount by his famous "metaphysical postulate". Before examining his postulate, let us see exactly where he stands. He insists that we are limited to a "circle of ideas," and thereupon sets himself to explain the significance of that fact.

Can the many persons who admire and accept this portion of Lotze's work explain the following objection, which seems to me insuperable? If a man's cognition were actually limited to a certain sphere, he would not be able to recognise the fact that it was so limited; such recognition could only supervene if at some future time his sphere of knowledge were widened; then and then only could he, in virtue of his extended range of cognition, recognise his former sphere of knowledge as having been limited. This reflexion, which Lotze develops at great length in his speculations on the perception of the dimensions of space, unfortunately does not occur to him while engaged on his present subject. Nevertheless it holds perfectly good of the so-called sphere or circle of ideas. If a man really were "hemmed in" by the "circle," he would never say anything about it, for the best of all reasons—he could not. To be conscious of the contents of our knowledge as being limited to a circle of ideas we must be able to occupy a point of view outside that circle. Every time Lotze declares that he surrenders to the circle, he is giving the lie to his own

words, notably in the passage where he "perpetrates" the circle "with his eyes open"—which is really equivalent to saying that he opens his eyes in order to see that they are shut.

And now to deal with the demand set forth on p. 451 for a "metaphysical doctrine". We have to ascertain, he tells us, the significance of knowledge "in its widest sense"; an excellent piece of advice, and the very thing I have been urging all along. But we are to do it "consistently with those yet more general notions"—how can any sane human being possess notions more general than the notion of "knowledge in its widest sense," *i.e.*, than the notion of the possibility of there being any notions whatever? It is very plain that, when he subordinates his theory of knowledge to certain "more general notions," Lotze is not dealing with knowledge "in its widest sense"; he is dealing with it in that very narrow and (metaphysically) objectionable sense which treats it as the product of a subjective activity of thought, and places it in antithesis to an objective reality of "things". And a treatise in this spirit cannot possibly give an adequate treatment of knowledge, because it ignores the two most important characteristics of knowledge, *viz.*, (1) its capacity to give objectivity or "thinghood" to its data; (2) its power to create a relation and antithesis between an inner and an outer world. Now Lotze, lapsing into the language of everyday life, confuses this distinction between inner and outer with a distinction between internal thoughts and external things, thereby overlooking the significance of the fact that "knowledge in its widest sense" must transcend the distinction in order to make it possible, *i.e.*, must itself be neither inner nor outer, must no more consist of thoughts *qua* internal than of things *qua* external. Thus "external things," which may with some justification be treated as antithetical to "internal thoughts," are by a natural confusion treated as antithetical to knowledge. Or, to view the same fact from the other side, because knowledge is tied down to its "subjective sense," *i.e.*, limited to ideas "within our own minds," this outside, yet necessarily existing, reality must be unknowable.

We have already seen that Lotze finds it necessary to make a step into this region of the unknowable by means of a postulate, but that, however "metaphysical" such a postulate may be, it can only demonstrate its supremacy over the "circle of ideas" in so far as it is logical. Why, then, ought the laws which thought formulates as to the

relation between subject and object to be subordinated to the laws which thought conceives to be exemplified when it observes or supposes that one thing acts upon another? Surely the reverse is true. Ideas may have a multitude of contents besides conceptions as to the laws of the operations of "things"; but the relation between subject and object is the indispensable condition of the possibility of cognising any matter whatever upon which thought can be directed; the laws of this relationship must therefore rank as prior conditions of the very maximum of generality, to which the laws or hypotheses of action and reaction between objects must be subordinated. And to the possible retort that I am confusing the conditions of Being with the conditions of cognition, I reply with the old challenge—distinguish, if you can, that which is from that which is known.

Lotze's fault consists in forgetting that the category of causality, which he makes the basis of explanation of "knowledge in its widest sense," is itself the "work of the mind," and that thought in its "widest" or metaphysical sense cannot be externally opposed to anything. While disregarding these two points, he gives full play to his innate passion for treating everything after the manner of "things," *i.e.*, of objects external to and acting upon each other. Yet at the same time he has an uneasy feeling that he is not doing justice to the unique character of thought, and therefore seeks to allay his uneasiness, not by recognising that thought is not an object at all, but by assuring us that it is an object with a certain character and independence of its own, and by no means an inane and passive *tabula rasa*. Thus, when raising the question how the thinking subject is "operated upon" by the object of knowledge, he observes that thought must be treated as an object which is "receptive" of certain particular "stimuli to its spontaneity". In the thought-content, therefore, which is the resultant effect of an operation of an object on the mind, this *quasi-individuality* of thought must be taken into account. With this half-hearted concession to the constitutive nature of thought we must deny all complicity, because it is based upon the presupposition that thought *has* an objective nature of its own, *i.e.*, apart from its objects, which can be acted upon. Against which supposition it must be urged that the knowing subject *qua* subject, *i.e.*, in virtue of the unity of his consciousness, has no objective nature at all. Thought is not, as Lotze would have us believe, a pair of coloured spectacles which impart their hue to the "real things" we see through them.

But Lotze goes further towards making thought independent and at the same time an object or "thing". After an external stimulus has called forth its activity, thoughts, he tells us, may "have their origin in the constitution of the mind alone". Here again he is converting good "common-sense" into bad metaphysic. Every man knows the difference between ideas "out of his head" and hard facts of external experience. But that there should be a metaphysical difference in kind between thoughts which are directly stimulated by objects recognised as external to the body and thoughts which are not, is not at all obvious, and is a question upon which "common-sense" is incapable of pronouncing any opinion. I suppose it may be fairly conceded to the "materialists" that every thought, down to the very "inmost," has its material aspect, and can be traced to ingredients occupying positions in space. But what has the exact locality of these material processes, or of their originating cause, to do with the *metaphysical* significance of thought? Take place they always must; but the processes are not the thoughts; still less are the thoughts to be identified with the place in which those processes occur. I think we can now see the gross ambiguity of Lotze's talking about thoughts originating "in the mind alone". If we are speaking physically, and mean by "mind" a certain material object, it may be quite right to distinguish stimuli which originate within from stimuli which originate without that object. But when we are talking metaphysically and say, *e.g.*, that an object is constituted as such by its reference to a mind, we are using "mind" in a totally different sense. "Mind" now may indeed "constitute" thoughts, but it has in itself no constitution whatever, in the material sense of the word; it is, *per se*, pure and abstract spirit, incapable of originating a single actual thought, much less a whole world of thoughts. It is because Lotze's view of "mind" is tainted with materialism that he believes in (1) a world of pure ideas, the special property of the mind, and in the necessity of contrasting with this ideal world (2) a world of "real things".

Apart from the above objection, I think there are two fatal defects in the division of the Real into the two distinct spheres of "immutable ideas" and "changeable things". Empiricism can with justice protest that, since the *reality* of any idea consists merely in the fact of its being present to the mind of some thinking being, and since the reality of a material or concrete object consists in exactly the same fact, there can be no difference in kind between the reality

of an idea and the reality of a "thing". Idealism, while recognising the truth of the empirical view, would go on to reinforce the protest against a world of mere thoughts, on grounds of its own. It would admit that reality, reduced to its lowest terms, means reference to a thinking mind—a privilege which both "ideas" and "things" must necessarily share—and would point out that this reality is the primary requisite which every content of thought must possess. But, the Idealist would in the next place show, the world is a great deal more than real; it is ideal. And by that he would not mean that upon a non-ideal or mechanical system has to be superimposed a teleological system of ideals, exhibiting the beautiful purposes which blind matter is designed to fulfil—and ignoring the failures. He would mean that when we only recognise the world as real we only recognise that it exists (we do not even recognise our *consciousness that it exists*); the whole wealth and content of its nature consists in its being ideal. Within this whole, and by virtue of its ideal nature, distinctions arise; one object of thought is different from, and cannot be reduced to another, *e.g.*, an object of which extension is predicated to one of which extension cannot be predicated; that is the whole solution of the popular phrase, so misleading to Lotze, "we cannot reduce things to thoughts".

Let Idealists consider what are the foundations for Lotze's system of "ideas," before they accept him as an ally; otherwise they may discover, when it is too late, that he is a more dangerous friend than many an open foe. For there is no more pernicious enemy to the true Idealism, which finds in thought the Absolute, than that spurious Idealism which invests thought, out of an avowed regard for it, with such attributes as degrade it into an impotent and abstract thought, implying an alien "reality" for its substratum. Moreover, the Idealism which cannot prove itself true of the whole of Reality save by denying the existence of one-half of it becomes at once subjective, and is therefore doomed. (*Cf.* Lotze's *Logic*, p. 431: "Things," he says, "may be mere means to produce in us in all its details the spectacle of the ideal world".) And it is because the true Idealism which holds all thought to be concrete is, according to the common belief which Lotze has done much to encourage, involved in this catastrophe, that I think it the paramount duty of Hegelians to show that they have a right to treat Lotze with disdain, by convincing people that their doctrines are unshaken by his conclusions.

With regard to Lotze's plea, which has excited much

admiration, for a special kind of reality called "validity," I do not think much need be said. Like most conceptions and misconceptions of philosophy, it is really a very old friend, dating from the time of Plato and Aristotle. It is the assertion that ideas are general which constantly springs up side by side with the opposite assertion that ideas are always particular. Isolate the assertions from their surroundings, and the answer to them must always be the same. The bare universal has no more right to any independent reality whatever than has the bare particular. Universal and particular are relative terms, and derive the whole of their import from their relation to each other. The universal is only universal as implying the particular. We cannot first examine universals *per se*, and then go on to inquire whether particular things do or do not "correspond" to them. And if we could, the work would be suicidal; for, once isolate the two, and no possible mechanism could bring them together again; which Lotze realises in his frequent exclamations: "There are not two worlds, but one"—meaning thereby, in his *Metaphysic*, a One Absolute Object, and, in his religious speculations, an all-embracing Absolute Subject. To give a difficulty a name is not to solve it, and the bare universal does not cease to be a chimera because Lotze has clothed it anew with the dignity of "validity".

And now let us turn to the other side of the antithesis between thought and "things," and come to close quarters with this "something more" which is perpetually casting its shadow upon Lotze's "ideas". I have alluded to the embarrassment caused by Lotze's method of keeping it an open question whether this substratum to "ideas" is properly to be described as God or "things". But I think he has so far committed himself to the notion of a causal activity exercised by the substratum upon our ideas as to make its identification with God altogether untenable. The theory cannot for a moment be allowed to hold water that God *causes* the presence of phenomena to our minds, which phenomena are illusory save as a product of God's causal activity. Whether such a theory would be desirable or not, I do not say. I merely observe that it could only be established by the absurdity of representing God as an existent object in the phenomenal world; for it is only such objects which can be *proved* to stand as the causes of which empirical facts are the effects. And, taken as a postulate, it would simply be a return to that pre-Kantian dogmatism which solved all its difficulties by the *deus ex*

*machina.* Is that the way in which the modern philosopher proposes to reconcile Hegel and Herbart?

Dismissing this possible difficulty, we come to the main ground on which "things" claim to exercise an external influence over thought. Their metaphysical existence is supposed to be necessary in order to account for *a posteriori* knowledge. The element of truth in this reflexion is that it must always be impossible to get *behind* experience; interpret its data as we will, we must always accept them; even the extreme Idealist will, if he be wise, acknowledge his submission to facts; and if people who do not take the trouble to understand him reproach him with determinism, he will not be much disturbed, for Hegel has taught him how to defend the proposition, "the rational is the real and the real the rational". The prevailing element of falsehood which Lotze imports from the empirical aspect of knowledge is the idea that thought must be conditioned by some external objects or an "unknown power". He seems to forget that in trying to supply data or grounds as causes of the data of experience philosophy is attempting a very foolish thing, and committing itself to an endless regress. It is the business of science to carry on the chain of causality as far as it can; the mass of causally related facts thus collected philosophy has to explain, not by adding to the chain another length, which must terminate in the unknown, but by revealing the conditions which make a causal relationship between phenomena possible. The lesson which the "*a posteriori* element" teaches is simply that we cannot get behind the Real, *not* that Reality is grounded upon an unknown other clothed in either a Realistic or an Idealistic garb. And a particular protest must be entered against that latter *quasi*-Idealistic hypothesis as to the unknown, to which Lotze finally inclines. A consistent Idealism cannot allow such an assumption, because it is based on the false idea that the stimulus to experience is "foreign to" the individual mind, and therefore implies the existence of a metaphysically isolated, causative, universal mind. Not that Idealism would identify man with God, but it would explain the possibility of *a posteriori* knowledge by showing that the human mind is endowed with a universal or infinite capacity in virtue of which each new datum of its experience does not stand in a "foreign" or purely external attitude towards it.

To Lotze, as to every other philosopher who talks of a world external to thought, this difficulty must always present itself sooner or later: even granting the necessity of such a

world, how is it possible for us to *think* it? Lotze begins definitely to prepare for the transition from logic to metaphysic in his chapter on the "Real and Formal Value of Logical Acts," where he draws elaborate distinctions between thoughts *qua* processes and thoughts *qua* results, and makes much out of the assertion that judgments and syllogisms, for instance, cannot have a "real" significance, *i.e.*, "correspond" to real objects. Now while readily admitting that the forms of judgment do not = visible objects, we must deny that the fact has any philosophical importance. No thoughts have external objects "corresponding" to them except thoughts of external objects; that is the barren platitude which is the sole substratum of Lotze's argument. The plausibility of his contentions is due to a most unwarranted admixture of "common-sense" and science. He makes capital out of the common definition of truth as the correspondence of thought with things, and he presses into service the scientific method of demonstrating a truth about a natural object by a course of proof for each step in which no corresponding event may be found in the history of the object itself. But all this is quite off the mark; it does not in the least invalidate the two propositions on which philosophy ought to insist: (1) that all thoughts are objective, though not all about external objects; (2) that inasmuch as the reality of any thought-content consists in its reference to a mind, all thought-contents are equally real, though one real content, *e.g.*, a syllogism, may not be reducible to another, *e.g.*, a perceived object. The "finished structure" of thought has neither more nor less claim to metaphysical reality than has the "scaffolding". In the language of the simile at the end of the chapter, the "subjective" or "formal" routes by which thought travels are quite as "real" and "objective" as the hill-tops which it reaches. Lotze is unconsciously stumbling upon the fact that the real object or *universal* (the view from the summit which is the same for all) is constituted as such by reference to *particular* human minds, and here we see again that he is upon the threshold of a serious question, into which he is reluctant to enter: What is the relation between finite minds and the Infinite? Now, whatever be our views on this relationship, it must always be insisted that "universal" and "particular" are relative terms, and meaningless when divorced. Lotze, while insisting on the obvious fact that the universality and the particularity of thought are not the same, forgets how intrinsically they are connected. After abstracting the subjectivity or particularity from thoughts,

he practically says: "Behold in these objective universals something more objective and universal than" (*i.e.*, *minus* the particularity of) "human thoughts; these universals therefore are the guarantee that beyond our thoughts there is something more, *viz.*, a real world of things".

I have already dwelt upon the importance of this step, and shown how it enables him to invest each member of the antithesis "thoughts *v.* things" with an independence of its own. We have seen that (1) "thoughts to which no things correspond" are either abstractions or else simply thoughts to the content of which the attribute of extension does not belong. We have also noted that the notion of (2) "thoughts and things which correspond to or are parallel with one another" involves an unfair transference of the particularity and universality, which both properly belong to thought, to "things". Let us now look a little more closely into (3) those "things" which have no "counterpart" in thought, or at least have a reality independent of thought. Popular belief of course accepts (3) without hesitation, and with this popular assumption Lotze always so far concurs as to treat the counter assertion of Idealism as a paradox which requires toning down. Against this initial prejudice of his we must protest. Idealism is doing nothing preposterous when it denies the existence of things *per se* independent of thought. And it can enforce this denial without going beyond the data which human cognition supplies. It need not be non-plussed by the common objection—"What of the reality of the universe before thinking beings came into existence?" or be forced to call in the *deus ex machina* of an hypostasised universal mind, independent of particular minds. It has simply to say, with Aristotle, that what is *δυνάμει* is relative to and explained by that which is *ἐνεργέᾳ*. The world was what it has become. Lotze generally sees the absurdity of asking what would reality be like if it were not what it is; but one particular form of that absurdity, the question—What are "things" like apart from the work of thought? he treats as quite proper and legitimate.

Trusting that I have already traced at sufficient length the reasons why Lotze is led to find in "change" the key to the pre-eminence of "things" over thoughts, I pass at once to his view of change. Perhaps it savours of ingratitude to quarrel with Lotze on this point, because especial thanks are due to him for his insistence on the fact that metaphysical problems, for Idealists as much as for others, do centre about the import of change; and it is on account of their diffidence or neglect in this matter that most latter-

day Hegelians seem visionary and unreal. Still, Lotze's modes of expression and his leading thoughts on this important subject are disastrously turned awry. It is undoubtedly true and of high significance that the real is in process, *i.e.*, that "process" is an attribute which must not be eliminated from Reality as a whole; but it is also to be noted that thought cognises this process. Now analysis of this cognitive act reveals the further fact that thought is not itself a part of this process, but, on the contrary, the condition of the process being recognised; for it is due solely to the conditioning and processless unity of consciousness that "process" has any meaning for us. Hence we ought to correct Lotze's assertion that change "completely dominates reality" thus: being predictable of things only in so far as they are brought under the unity of thought, change is completely dominated by thought. There is no force in the possible objection that I am confusing two different things—change and the cognition of change. As a colour is no colour save to the eye that sees it, so a change is no change save to the mind which cognises it. We, as thinking beings, can rightly say that changes actually did take place, when, for example, the world was in the gaseous stage, but we are simply interpreting the *δύναμις* of the world by the *ἐνέργεια*. To affirm the existence *per se* of a pure *δύναμις* or *ὑλη* is preposterous. To the familiar retort that, as the real elements in the flower whereby the eye sees its colour must exist though the flower never be seen, so the real facts which by us are cognised as changes must have occurred before the appearance of even animal life, the answer is—most certainly; but here again those real elements are mere *δυνάμεις* or potential existences apart from the *ἐνέργεια* of thought. Change is one of the essential aspects in which Reality presents itself as a phenomenon; thought, being that to which all phenomena must present themselves as to the condition of their possibility, cannot itself be conditioned by a phenomenon.

From a desire to follow Lotze's order of exposition as far as possible, I have left Time to the end, because, although presuppositions as to the import of Time are at the bottom of nearly all that he has been saying on the distinctions between "things" and thoughts, his treatment of the subjects we have been discussing is ended before his doctrine of Time begins. The theory of Time is thus forced into the unenviable position of being either inconsistent with what has gone before, or, if consistent, liable to the charge of *petitio principii*. But, waiving that point, does the chapter on

Time, taken purely on its own merits, force us to a reconsideration of our previous criticisms? I think not. I hold the entire chapter to be founded on a misconception, an utter perversion of the meaning of the doctrine of Time contained in Kant's *Aesthetic*. Possibly Kant may have insisted on the "subjectivity" of Time too much, and thus given some colour to the erroneous notion that Time is a property of the cognising subject rather than of the phenomenal object; but Hegel had given ample warning of that danger; it is therefore a matter for astonishment to find that Lotze deliberately falls into the snare, and thinks that because Time is not "merely" subjective it is not "merely" phenomenal. The natural outcome of this view is the idea that succession is the property of a "basis of reality" behind phenomena. And so, it would appear, we can know at least one thing about things in themselves, *viz.*, that they are in succession. But what has Lotze been doing? He has been saying: Time is not merely a property of the spectacles through which the mind sees things; it is also a property of the things which the mind sees. Very true; but unless we are to throw all Kant's teaching to the winds, we must doggedly insist that what the mind sees is phenomenal, and that it is the very phenomenality of its objects which constitutes their reality. Thus we see that Lotze draws from a perfectly true statement the utterly false conclusion that Time is a property of the things which the mind sees, *taken in abstraction from* the mind which sees them, *i.e.*, is a property of things in themselves. Thus we see how he illegitimately makes time bridge the chasm between the "circle of ideas" and an imaginary "supersensuous" world, a "real" process of events, to the contents of which he frequently applies the gross misnomer "intelligible". It is because he allows Time to gain a footing in this mysterious "real" background which he posits, that he takes the liberty of setting at defiance the Idealist doctrine of the limitation of the causal relationship to phenomena, and attributes to non-phenomenal "things" a causative influence on our minds.

That such an attitude of "things" towards thoughts is radically false it has been my main business to show. Speaking generally, the antithesis between thought and "things" fails because philosophy cannot begin with an isolated inquiry into either cognition or reality, but must necessarily begin and end with the one inquiry into the cognition of reality. Divorce the two, and they become abstractions which never can *unite themselves*, but have to appeal to a third party to effect their union; and I fail to see

the piety of a philosophy which makes the fact of its own helplessness the ground of an appeal to God.

A word in conclusion on Lotze's appeals to immediate perception. It seems strange that, although he lived at a time when the arrogant claims to superiority on the part of immediate knowledge had recently received their quietus, we yet find the old fallacies reappearing in his works with an air of perfect innocence, as though Jacobi, for example, had never lived and had never been criticised by Hegel. In Lotze's assumption that perception (1) gives assurance of contact with actual fact, the grain of truth is that if we were not capable of immediate perception we should not be able to cognise any truths whatever; the bushel of falsehood is the implied notion that immediate perception, alone, *i.e.*, without reflexion, can tell us the truth about any objects whatever. To the idea that perception may give (2) a miraculous revelation of facts hitherto unknown about "things in themselves," I bluntly retort—"not proven". The union of Being and not-Being in Becoming is not at all miraculous; it is one of the simplest instances of the union of "dialectical negatives". The most telling appeal of all, the appeal to immediacy in the shape of (3) "faith," Idealists have, more than once, thoroughly exposed. Hegel, and recently some of his English followers, have admirably shown that, without doing violence to the religious aspect of faith, we must deny that faith is a special faculty capable of pronouncing upon or adding to the truths of ordinary cognition and reason. Lotze's "faith" is unequal to the task he assigns it. Our assurance of the Real does not arise from contact with something external to thought; just as little is it established by a "feeling of immediate certitude" from within, located in the heart or elsewhere. But Lotze's mind is too deeply imbued with religious associations to allow him to direct upon "faith" the cold scrutiny of impartial reason, and thus he unconsciously makes that "faith," to which he appeals as the ultimate standing-ground of his philosophy, spurious because irrational.

We may, perhaps, find here the explanation of a curious phenomenon. When discussing a problem, Lotze always begins by a destructively sceptical criticism of various recognised opinions on the subject, and then, when we think that he must inevitably abandon the problem in despair, we find him quietly settling down to dogmatise on his own account—appealing to "faith" or a "feeling of immediate certainty," he would call it. Lotze is not the only example which history affords of a man beginning by doubting everything, and ending by believing anything.

### III.—THE STUDY OF CRIME.

By Rev. W. D. MORRISON.

#### I.

ROUGHLY speaking the range of this study embraces, first, the movement of crime, secondly, the causes of crime, and thirdly, the repression of crime. The movement of crime comprises its extent, intensity, and geographical distribution; the causes of crime are divisible into personal, social and cosmical; the repression of crime deals with the theory, the methods, and the efficacy of punishment.

Before these three divisions of the subject can be treated in a competent manner they must first of all be preceded by a thorough knowledge of criminal statistics. Even in official quarters in this country very primitive ideas are at present current with respect to the amount of weight to be attached to criminal statistics. It is very frequently assumed that all the inquirer has to do is to go to the figures and to base his conclusions as to the movement of crime upon them alone. The adoption of this method leads to very fallacious results. Before any assured conclusions can be based upon the official statistics of crime careful account must be taken of the manner in which the figures have been affected by external circumstances, of the manner in which they are arranged and of the degree of certainty attaching to the various methods in which offences are classified. Among external circumstances requiring to be taken into consideration, the first in importance are alterations of judicial procedure. It is very common, for instance, for people to assume that serious crime has decreased in England within the last three decades inasmuch as the number of indictable offences has materially decreased in the period referred to. Whether serious offences have or have not diminished in the last three decades is a question which we shall not at present discuss; it is sufficient for our immediate purpose to point out that a decrease in the number of indictable offences cannot be taken as a satisfactory proof of its decay. The annual number of indictable offences has been materially affected within the last thirty years or so by important changes in judicial procedure. As a result of the passing of the Criminal Justice Act of 1856 and the Summary Jurisdiction Act of 1879 a vast number of cases which

used to be tried on indictment are now tried summarily, and all calculations which do not take cognisance of these changes in judicial procedure are bound to be erroneous. In estimating the movement of crime, therefore, the first point to be attended to is the alterations which may have taken place in the methods of judicial procedure, and the first error to be guarded against is the confounding of a mere change in the mode of trying criminals with an actual decrease of crime.

In appreciating the value of criminal statistics another matter of almost equal importance is the introduction of new laws and the abolition of old ones. The abolition of old restrictive laws, as for instance the enactments against trade combinations, and the falling into abeyance of many statutes which are not actually repealed, as for instance the utterance in print or otherwise of treasonable expressions, tend to diminish the number of cases which come before the criminal courts. On the other hand, the introduction of fresh restrictive legislation has the effect of increasing the annual number of offences. The Elementary Education Act of 1870 is an excellent illustration of the way in which offences are increased by fresh legislation. Before the passing of this measure no parent could be punished for not sending his child to school; in 1890 the number proceeded against before the magistrates of England and Wales for neglect of this duty amounted to 80,519. It will thus be seen that legislative changes play a considerable part in multiplying or diminishing the annual volume of offences.

It must not however be assumed as is sometimes done that in order to institute a fair comparison between one period and another all new offences have simply to be eliminated. It not seldom happens that the laws enacted against such offences have been passed in consequence of a real growth in the criminal instincts of the community so far as the offences in question are concerned. The Criminal Law Amendment Act of 1885 is a case in point. This act became law in consequence of a rapid increase in the number of sexual offences, and in order to arrive at a just estimate of the movement of crime within the last twenty or thirty years the cases under this act must be included in the general computation.

Turning from a consideration of the external circumstances which have to be taken note of in interpreting the contents of criminal statistics, let us now examine these contents themselves. It is usual to split up criminal statistics into three main divisions, consisting respectively of judicial statistics, criminal statistics proper, and prison statistics. It is, however, to be observed that this classification of

the material is not followed in the official documents of every country. In the German Empire the line of division between judicial statistics and criminal statistics proper is very clearly defined, in England it is not; and here it ought to be distinctly emphasised that, as far as accurate and scientific arrangement is concerned, the criminal statistics both of Germany and Italy are vastly ahead of our own. Both in Germany and Italy the department of criminal statistics is presided over by officials possessed of an intimate and comprehensive knowledge of criminal problems; accordingly the *Kriminal Statistik des Deutschen Reichs* and the Italian *Statistica giudiziaria penale* are veritable store-houses of admirably arranged information respecting the movement of crime. Of the two the Italian statistics are the more complete, and may be pronounced to be at present the best in Europe. The arrangement of English criminal statistics has remained practically unchanged since their institution in 1857. Since that period much progress has been made in statistical method; the Germans and Italians have availed themselves of it, but England as usual remains lethargic and indifferent.

These remarks on the comparative value of the statistical documents relating to crime are somewhat of a digression. We shall therefore resume our examination of the contents of criminal statistics by pointing out some of the differences between Judicial statistics, Criminal statistics, and Prison statistics. Judicial statistics are intended to exhibit the operation and administration of the criminal law. Accordingly they are concerned with the number of crimes committed and the nature of those crimes; the number of offenders apprehended and the nature of the offences; the percentage of offenders convicted and the nature of the punishment inflicted on them. The information obtained upon all those points serves to show how the criminal law works, and how justice is being administered. On the other hand, Criminal statistics are occupied not so much with the offence as with the person who commits it. The first set of statistics deals with crime, the second with the criminal, and the immense value of the latter consists in the fact that it is only through a knowledge of the personal condition of the criminal that we arrive at the causes which tend to produce crime. Let us go to the Italian returns for an example of the manner in which the personal condition of the criminal is exhibited. In these returns we find, in the first place, the offender's name, birthplace, commune, province, and date of birth. In the case of a foreigner the country only is given.

In the second place, we have an account of the offender's civil condition, whether he is legitimate, legitimatized, or illegitimate; whether he is single, married, a widower; has children or is childless. In the case of juveniles it is set down whether the offender has parents, relatives, or guardians, and whether he lives with them or not. The next point on which information is given is the occupation of the offender, whether he is an employer or employed, and what is the nature of his calling. Then comes an account of his penal condition, that is to say, whether he is or has been under police supervision, whether he has been subjected to conditional condemnation, whether he has been previously imprisoned, whether he has been under detention in a reformatory school, and so on. After this is a list of his previous convictions (if any), as well as an account of the nature of these offences, and the dates of their committal. Finally comes the indictment, the conviction, and the time and place of the crime for which he is in custody.

It will be observed that the Italian criminal statistics are silent with respect to the religious profession and the educational capabilities of offenders; nevertheless their contents are amply sufficient to show that the object of Criminal statistics proper is to provide materials for estimating the effect of personal, social, and cosmical causes in the production of crime.

Prison returns partake partly of the nature of Judicial statistics, and partly of the nature of Criminal statistics. Prison statistics deal with the machinery of prison administration in much the same way as judicial returns deal with the machinery of the penal law; and, on the other hand, they deal with the personal condition of the convicted offender on very much the same lines as criminal statistics proper. Accordingly in Prison statistics we have an account of the annual cost of the administration, and of the number and duties of the various officials of which it is composed. This is the machinery of the Prison system. After the machinery comes the material on which it has to work, that is to say, the persons sent to prison. Prison returns therefore treat of the numbers annually imprisoned, and of the length and nature of the sentences pronounced upon them. These returns also furnish an account of the age, sex, education, religion, nationality, as well as the previous convictions, conduct, and state of health of the imprisoned population. In the returns of the Discharged Prisoners' Aid Societies an account is given of the manner in which prisoners are assisted after their liberation, and the annual report of the

Inspector of Reformatory and Industrial Schools furnishes a list of the percentage of juveniles who again become criminals after passing through reformatory institutions. Before concluding this account of prison statistics it is requisite to call attention to the fact that these returns must not be confounded with the general statistics of crime. This is a very common form of error. It is very often assumed, for instance, that crime must be decreasing, inasmuch as the total prison population has decreased, or inasmuch as the daily average of persons in prison has gone down. Both these methods of reasoning are fallacious. The rise and fall of the prison population depends upon many other circumstances besides the growth or decay of crime. Imprisonment is only one of many ways for repressing offences against the criminal law. In addition to imprisonment the criminal law uses such methods as hanging, fining, sureties, conditional condemnation, reformatory and industrial schools, private homes for juveniles, and so on. If these methods are becoming more and more substituted for imprisonment the prison population must decrease even if there has been no diminution either in the amount or in the intensity of crime. Let us illustrate this by an example. In the year 1868-9 the number of convictions in the courts of summary jurisdiction in England and Wales amounted to 372,707, and out of this number 95,263 or 25 per cent. were imprisoned. In the year 1887-8 no less than 538,930 convictions were recorded, but out of this number only 78,438 or 14 per cent. were imprisoned. These figures uncontestedly show that there has been a very considerable increase in the number of offences subject to summary jurisdiction since 1868-9, but in the face of this increase in the total number of summary offences the prison population has decreased to the extent of 11 per cent. It is evident from these statistics that the number of persons sent to prison is not to be accepted as an accurate criterion of the annual amount of offenders summarily convicted. Again the growth or decay of crime in seriousness cannot easily be determined by prison statistics alone. In recent years magistrates have received enlarged powers for fining offenders in cases where imprisonment used to be the only method of dealing with them, and in recent years great changes have also taken place in the treatment of juvenile offenders. It is now a very common custom for magistrates to cause charges of felony preferred against juveniles to be withdrawn and charges of a lighter character to be substituted for them. The object of this alteration in procedure is to relieve the magistrate of the necessity of sending the young

offender to prison, and he is accordingly handed over to an industrial school or private institution instead. In this way the prison population is diminished, although there may be no diminution in the gravity of crime. It is also to be observed that the numbers in prison on a given day, or the daily average of prisoners, are very largely determined by the duration of sentences. It is therefore impossible to form an opinion respecting the movement of crime based upon the daily average of persons in prison. If sentences are being shortened the daily average in prison will decrease even if no decrease is taking place in the extent and seriousness of crime, and if sentences are being lengthened the daily average will increase even if there has been a decay in the amount and intensity of crime. In other words, the daily average is absolutely worthless as a criterion for estimating the movement of crime. Summing up the whole subject of the relations between the prison population and the statistics of crime, we arrive at the general conclusion that the number of offenders annually admitted to prison, as well as the daily average of offenders in prison, is too entirely dependent on judicial procedure and judicial sentences to be of substantial value in estimating the growth or decrease of crime.

## II.

These preliminary observations on the nature and value of criminal statistics have placed us in a better position for considering the study of crime in the three aspects of it to which allusion has already been made. It will be remembered that the first of these aspects was the movement of crime in extent, intensity, and geographical distribution. How is this movement to be determined? There are three methods by which this may be accomplished, namely, by an examination of the cases reported to the police, the cases tried, and the cases convicted. Every proceeding of a criminal character passes through the successive phases of report, trial, condemnation or acquittal: each of these phases taken singly is more or less imperfect as a criterion, but all of them taken together, although falling short of mathematical exactitude as we shall presently see, are nevertheless a sufficiently close approximation to the facts to enable us to form some sort of an estimate as to the movement of crime.

The number of cases reported to the police has the merit of being the fullest account of serious crime. As soon as an offence has been committed the first step which usually takes place is to report it to the police. In many instances this

action has no practical result, inasmuch as it neither leads to the apprehension, trial, nor conviction of the offender. All the same the offence is recorded if indictable in character, and the total annual number of such offences is the most complete official register of the amount of serious crime. Yet this record is in several respects inadequate. It is almost needless to advert to the fact that many crimes are committed which are not reported to the police. A statement was recently made at Birmingham by Mr. Chamberlain that in the course of two years the Society for the Prevention of Cruelty to Children had dealt with no less than 8810 cases of criminal cruelty, but out of all this number only 1497 were brought to the notice of the police. Multitudes of cases of a criminal character never reach the ears of the authorities, and are consequently unrecorded. In cases of theft, for example, it often happens that the injured person is either unconscious of his loss or at least of the manner in which it occurred: or if he is aware of these things he does not trouble to report the affair to the police. In a recent report to the Town Council the Chief Constable of Manchester gave a very startling account of the number of frauds perpetrated in that city which never came officially before the criminal authorities. He stated that in 1891 the sums of money of which commercial houses in Manchester were robbed by persons of good education alone amounted to upwards of ninety thousand pounds, and that in the majority of instances the perpetrators of these robberies were not prosecuted. It follows as a matter of course that none of these cases appear in the annual statistics of offences reported to the police, although they constitute an important item in the annals of crime. But, apart from these inevitable omissions in police statistics, it is also to be observed that as far as England and Wales are concerned official returns of offences reported to the police are only made when these cases are considered to be of an indictable character. No record is kept of summary offences when the offender is not tried; and as summary cases although lightest in nature are largest in number, it is manifest that the annual number of reports to the police is not altogether an adequate index of the total amount of crime committed. At best it is but an approximation. The actual amount of crime committed is always immensely in excess of the statistics of recorded crime.

Cases tried stand upon a somewhat different footing to cases reported. All such cases, whether indictable or summary, are tabulated in the official statistics of this country. This makes them a more valuable criterion of the total

amount of crime than the reports to the police. Attempts have recently been made to get at the total amount of crime in England and Wales by mixing together the number of cases reported to the police with the number of summary cases tried, but the results of such a proceeding must be unsatisfactory. In all matters of this kind the three distinct phases through which a criminal case has to pass must be kept rigidly apart, otherwise inextricable confusion is certain to arise. Each phase of a criminal case sheds light upon the other, but when all its aspects are thrown together in the hope of arriving at some total computation which in the very nature of things cannot be attained, the only possible result is a kind of composite statistical photograph, which neither represents one thing nor another. One or two points affecting the value of cases tried as a criterion for estimating the movement of crime must now be referred to. It is well known that a certain percentage of false and frivolous charges figure among the cases which come before the criminal courts, yet all these charges must be included in any calculations based upon the number of cases tried. Another important matter must also be noted. The quantity of cases for trial depends to an enormous extent on the efficiency of the police and on the nature of the instructions issued to them. Where the police force is in a state of inefficiency the annual record of cases tried will afford a very inadequate conception of the extent and ramifications of crime. In such a posture of affairs innumerable offences will escape detection, and it is possible for a country to be riddled with the operations of criminal offenders whilst the statistical registers continue to exhibit a small percentage of cases for trial. This dangerous condition of things may likewise arise from another cause, which again affects the value of trials as an absolutely accurate standard, namely, the willingness or unwillingness of the population to come forward as witnesses. If the population is to any considerable extent unwilling to give evidence, as is the case with respect to certain forms of crime in Ireland and Italy, the yearly total of offences tried will be very seriously impaired as a test of the growth or decay of crime. Finally, the instructions issued to the police have an important bearing upon the number of cases tried. In almost all cases of drunkenness, importuning, breaches of the peace, and so on, the initiative rests with the police, and it depends almost entirely on the nature of police instructions whether these and similar offences will or will not figure largely in the statistics of crime. These instances are a sufficient indication of the variety of con-

siderations which must be reckoned with in estimating the movement of crime upon the basis of cases tried.

From trials we pass on to convictions. What is their value, and what are the hindrances which stand in the way of appraising it? So far as they extend, convictions represent the nature of the offences committed in a community with much greater accuracy than is possible in the case of offences tried or reported to the police. Until an offence has been submitted to the judgment of a properly constituted tribunal it is not possible to say with reasonable accuracy in what the offence has really consisted. The evidence bearing upon the case has not undergone that indispensable process of sifting and scrutiny which only a court of justice can adequately perform. Thus it not infrequently happens that a person is tried for one kind of crime and convicted of another, an indictment for murder resolves itself on trial into a case of manslaughter, and a charge of burglary resolves itself on examination before the courts into a case of simple theft. On the other hand, it is a very common practice, as has already been mentioned, to withdraw charges of felony against juvenile offenders which the police are perfectly able to substantiate in order that the young delinquent may be spared the odium of imprisonment and all the other risks which this method of punishment involves. In addition to being affected by questions of age, the criminal courts are also affected in their decisions by considerations of sex. At the present time in courts of summary jurisdiction in England and Wales about one man in every six is acquitted of the charge preferred against him, whereas one woman in every four is acquitted. It is to be inferred from this that magistrates are much more unwilling to convict women than men, for it is highly improbable that the evidence on which the charges rest is weaker in the one case than in the other; in fact, the presumption is quite the other way. The percentage of convictions is also affected by the constitution of the court and the nature of the crime. Evidence which will satisfy one magistrate and one set of jurymen will not satisfy another magistrate or another set of jurors, and testimony which will be regarded as ample in a case of theft will be looked upon as quite inconclusive in a trial for murder.

It follows from this brief examination of the statistics of convictions, trials, and cases reported, that each of these returns possesses its special import and its peculiar defect, that none of them by itself is to be accepted as an absolute test of the movement of crime, but that all of them, when interpreted by the light which each sheds on the other,

constitute a valuable index of the criminal condition of a community.

One or two additional observations still require to be made as to the methods of estimating the movement of criminality. The first of these is that a distinction must be made between persons and offences: the two must not be confounded. It very often happens that two or more offenders are tried for the same offence; and, on the other hand, it also happens that one person is tried for several offences. It is also to be noted that the number of offenders tried annually must not be regarded as so many different individuals. The same person may be tried many times in the course of a single year. According to a petition on drunkenness presented to the House of Lords in the session of 1891, many instances occur in which one person is convicted for drunkenness as many as thirty-two times in one year; in estimating the value of criminal statistics, it has accordingly to be borne in mind that these thirty-two cases only represent one offender.

Another important consideration must also be mentioned. It may be accepted as a general principle that the rise or fall of serious crime can be gauged with much greater accuracy than the movement of petty crime, inasmuch as criminal statistics increase in exactitude in proportion to the gravity of the offence. According to this principle, the statistics of a crime such as murder are a much closer approximation to the actual facts than the statistics of offences such as drunkenness. Murder is a crime which immediately creates a profound commotion among the community, and is almost certain to come before the eyes of the criminal authorities; it is, therefore, reasonable to assume that the number of murders annually reported to the police represents with considerable accuracy the actual number of murders committed: but the same thing cannot be said with respect to drunkenness. Within the last five or six years the number of cases of drunkenness has, on the whole, decreased in England and Wales, and if we had only criminal statistics to go by, it might be inferred that the evil of drunkenness was abating. But the statistics of the Registrar-General are, to some extent, hostile to this view. In the Fifty-third Annual Report on Births, Deaths, and Marriages, the Registrar-General says that "the deaths attributed to intemperance have increased year by year since 1884, and in 1890 were both absolutely and relatively to the population more numerous than in any previous year. They

numbered 2037, and were in the proportion of seventy to a million living, the highest previous rate having been fifty-five, and this in the next preceding year, 1889." If, as the Registrar-General shows, the deaths due to drink are increasing, it is hardly likely that intemperance is on the decrease: it is much more probable that the proper explanation of the figures to this effect in the criminal statistics is that the police are adopting more lenient methods with the intemperate—that they are, in fact, less disposed to arrest them at present than they were a few years ago. In estimating the movement of offences, we have accordingly to bear in mind that, as a rule, the graver the offence the higher is its value as an index of the growth or otherwise of crime in extent and intensity.

After having enumerated the principal circumstances which have to be taken into account as affecting our judgment on the movement of crime, we now come to the final question whether it is possible, on comparing one period with another, to say, with certainty, whether crime is increasing or decreasing. In my opinion, it is not possible to be absolutely certain upon this most important point in moral statistics. When the periods selected for purposes of comparison are very brief, as, for instance, the two halves of a decade, the effect of disturbing factors can be, to some extent, allowed for; but, on the other hand, five years is too short a time to base any satisfactory conclusions on in such a matter as the growth or decay of crime. In order to arrive at a trustworthy estimate upon this important subject, the range of the comparison should embrace two generations, or, at the least, two decades. Unfortunately, when we attempt to compare one decade with another, difficulties of a very formidable character at once present themselves. As has already been pointed out, criminal statistics, when they cover a considerable period, are so enormously affected by changes in law, changes in procedure, changes in the attitude of the authorities, changes in public feeling, and, to some extent, in the conditions of life, that a comparison of their contents cannot be accepted as conclusive evidence of the rise or fall of crime. A proof of this inconclusiveness is seen in the contradictory results at which equally competent investigators arrive when they discuss the question of the growth or decay of crime. With respect to France, M. Joly contends that crime is increasing, M. Tarde that it is decreasing. Prof. von Liszt asserts that crime is increasing in Germany, Herr Starcke says that it is not; and,

while Prof. Ferri maintains<sup>1</sup> that the apparent decrease of homicide in Italy is a "statistical paradox," Dr. Bosco is equally positive that the decline is real. When writers of such admitted distinction reach such opposite conclusions, it is evident that the statistical material on which these conclusions are based is of a somewhat indecisive character, and does not readily lend itself to the construction of dogmatic statements.

In England the indecisive character of criminal statistics as a test of the growth or decay of crime is very imperfectly recognised. Hence it comes to pass that the public is frequently asked to accept dogmatic assertions on a subject which does not admit of being dogmatized about at all. Within the last twenty years or so a great many alterations have taken place in criminal law and procedure, in the temper of the authorities, and the tone of public sentiment with respect to crime and criminals. The extent of these alterations it is impossible to measure, but until this preliminary step has been taken, we are not in a position to say whether crime has increased or decreased within the last twenty years. One statement, however, we may venture upon making. Within the last decade the total number of offences of all descriptions has steadily and vastly increased, and if we take the criminal statistics as they stand, a comparison between the most serious offences against person and property (the first two classes of indictable crimes) will show that these offences have increased both absolutely and relatively to the population in the decade 1880-9 as contrasted with 1870-9. According to the principle that criminal statistics increase in value in proportion to the gravity of the offence there is little ground for asserting in the face of these facts that crime has decreased in this country in recent years. It is, however, a much safer method not to attempt to force figures to produce a result which the disturbing influences affecting them make it difficult for them to yield, and it is better at once to recognise that the most which can be got out of a comparison of the criminal statistics of two distinct periods is a reasonable approximation to the facts, but never an absolute certainty. In using criminal statistics as a criterion of the moral condition of the country it is essential to bear this circumstance in mind.

Something now requires to be said respecting the geographical distribution of crime. It is a well-known fact in

For Ferri's views, see *La Scuola Positiva*, anno i. p. 102. This is an excellent periodical on criminal matters.

natural history that plants and animals are distributed over the globe according to the degree in which the soil, the climate, the configuration of the country, and so on, is adapted to their existence. It is the same with crime. Crime is geographically distributed in nature and extent all over the world in proportion to the vitality of the various potentialities, whether cosmical, social, or individual, which tend to increase or check it. We have only to look at the criminal statistics of different civilised communities for convincing evidence of the truth of this dictum. At the same time it is to be observed that these statistics cannot be used for purposes of international comparison in so far as the extent and intensity of crime is concerned. The reason of this is obvious. In no two countries is the criminal law exactly the same, in no two countries is crime classified in the same way, in no two countries is the criminal law administered in the same spirit, or regarded in the same light by the population. It has been truly said by Dr. Starcke in a report presented to the International Statistical Institute on *Die wichtigsten Elemente der Criminal Statistik*, that international statistics will only be comparable when all nations have the same criminal law, the same judicial administration, and a police force organised upon the same principles. At present the very greatest diversity exists among civilised communities on all these matters, and it is highly improbable that at any future period this condition of things will be superseded by an all-round uniformity. Differences of race, differences of social structure, differences in historical development, have all contributed to the formation of distinct types of criminal law and criminal administration, and as nations move along the paths marked out for them by their previous history, it is very unlikely that these differences will be any less in time to come than they are at present. But until these differences are obliterated it will be impossible to have a uniform criminal law, and therefore equally impossible to have international criminal statistics which admit of comparison in so far as the amount and gravity of crime is concerned.

International criminal statistics, while not admitting of comparison on the important points just mentioned, are yet capable of shedding considerable light on many of the probable causes of crime. When, for example, we see the same kind of crime increasing or decreasing in several communities at the same period, it is very probable that this general movement is due to the same general cause. International criminal statistics are also of material assistance in

enabling the investigator to estimate the effects of age, sex, occupation, social and material conditions, commercial prosperity or depression, and so forth, on the criminal tendencies of the population. In short, international criminal statistics may be usefully employed in all inquiries respecting the causes of crime, but they cannot be accepted as a conclusive test of the position of nations in the scale of criminality.

Crime, however, is not merely unequally distributed among different nationalities, it is also unequally distributed among the various divisions of the same state. Here the difficulties which invalidate international comparisons do not exist. The different departments, divisions, or counties of the same country are all subject to the same laws and the same methods of criminal administration, and it therefore becomes possible to institute useful and instructive comparisons between them. One of the first facts which strikes the investigator in this department is the extraordinary differences between one region and another with respect to the extent and nature of crime. In an interesting article<sup>1</sup> on crime in Italy, Dr. Bosco has shown that whilst there are only two cases of homicide to every 100,000 of the population in the province of Como, there are no less than fifty cases of homicide in the province of Girgenti. He has also pointed out that assaults and offences against morals are distributed in somewhat the same way as attempts against life, that is to say, they diminish in number as we proceed from the south of Italy to the north. On the other hand, this notable divergence in the territorial distribution of crime in Italy does not apply to the same extent to offences against property, and it cannot be said that thefts are more common in the north of Italy than in the centre, and in the centre than in the south. In the course of a valuable article<sup>2</sup> on the results of recent criminal statistics, Dr. Földes touches upon the distribution of crime in Germany, and shows that it is most prevalent in the provinces bordering on the Russian frontier, and lowest in the west and north. In some of the larger divisions of the German empire, as, for instance, Prussia and Bavaria, the amount of crime is almost double what it is in the smaller states, and similar diversities exist with regard to the distribution of juvenile and female crime. In France and England the same differences in the distribution of crime are to be found when we compare one department with another, or one

<sup>1</sup> See *Rassegna di Scienze Sociale e Politiche*, Dec. 15, 1891.

<sup>2</sup> See *Zeitschrift für die gesammte Strafrechtswissenschaft*, Band xi.

county with another. Why crime should be so unevenly distributed in the same country is a very interesting question : many causes are in operation to produce such a result, but, undoubtedly, one of the most important is the degree of density of the population. Other things being equal, a dense population has a tendency to produce more criminals than a thinly peopled district.

### III.

In the preceding remarks on the movement of crime we have set forth some of the principal methods which must be observed in estimating it, as well as the degree of exactitude attaching to all such estimations ; but it yet remains for us to examine a few of the chief causes which enter into the production of crime and criminals. It has already been mentioned that the causes of crime are divisible into three fundamental classes, namely, personal, social, and cosmical. This method of classification is, on the whole, the most definite and convenient. It is, however, necessary to observe that it is often impossible to draw a dividing line between these three sets of causes ; the separation of them is useful for purposes of exposition, but must not be assumed as implying an equally distinct separation in fact. With these preliminary observations we shall now proceed to speak of the personal or individual factors of crime. These may be defined as consisting of sex, age, physical and mental constitution. The effect of sex on crime is visible in the smaller proportion of female criminals than males. Among the general population of most countries the female population equals or exceeds the male population, but among the criminal population of every community the number of males exceeds the number of females. To what influences is the smaller criminality of women to be ascribed ? Some assert that it arises from a superior moral disposition, and that this superior moral disposition is a result of the altruistic feelings arising out of the duties of motherhood. Others question the belief that women excel men in moral attributes, and ascribe the inferior criminality of women to physical and social causes. Whatever may be the elevating effects of motherhood on the moral character of women, it must be admitted that this is not the only reason women are less disposed to crime than men. It is unquestionable that women are incapable of committing many crimes of a certain nature, owing to the want of physical strength. Murder, burglary, housebreaking, assault—and, in fact,

almost all crimes of violence—require an amount of bodily effort which women, as a rule, do not possess. It is, therefore, contended by writers such as Quetelet and Von Oettingen that want of power has probably as much to do with the small percentage of females convicted of crimes of violence as want of will. In support of this contention it is pointed out that the proportion of women who commit crimes of violence which do not necessitate the exercise of physical strength is very high indeed. In France, for instance, no less than 75 per cent. of the offences against children are perpetrated by women, and women are also responsible for 70 per cent. of the cases of murder by poisoning. It would accordingly seem that where physical impediments do not come into operation the contrast between males and females in the scale of criminality is apt to disappear.

Social conditions also tend to reduce the percentage of female offenders as compared with males. Owing to a variety of causes women lead more secluded lives than men, and are brought less into contact and conflict with the hard realities of life. Most of their time is spent in the home, and most of their duties are connected with its internal management. The duties and cares of motherhood bind them to home by the strongest of human ties, and one of the results of this is that women who are mothers are, according to M. Bertillon, not half so criminally disposed as women who are childless. On the other hand, it is universally admitted that where women have neither home nor family ties and live an isolated and independent life in great industrial centres they immediately begin to form a larger percentage of the criminal population. It would therefore appear that in all cases where women are subjected to the same social and economic conditions of existence as men their criminal tendencies become more pronounced, and that the disparity of these conditions must be set down as one of the factors operating against the production of female crime. Before leaving the subject of the relations between sex and crime we may remark that whatever may be the causes which make women less criminal than men the fact remains that they are so, and that in England at the present moment it is five times less probable that a girl will become a criminal than a boy.

Intimate as are the relations between sex and crime the connexion between age and crime is perhaps closer still, and Quetelet is justified in observing that "among all the causes which tend to develop or arrest the propensity to crime, age is unquestionably the most powerful". This

arises from the fact that the moral and mental development of every human being, the passions, impulses and desires, which play so conspicuous a part in shaping his conduct, are largely dependent upon age. In early youth, whilst the faculties are in a more or less rudimentary stage and the emotions demand to be instantly appeased, the dominant form of crime is theft. Reflexion exercises such a small check upon cupidity at this period of life that an act of theft generally springs from the impulse of the moment, and is executed in such a manner that discovery is often sure to follow. The daring of young thieves is proverbial, and it must be regarded as the result of blindness to danger rather than as the effect of calculation. In France the predominance of theft among the young is attested by the fact that juveniles under twenty-one form 29 per cent. of the total number of persons tried for theft. Next to theft the offences most frequently imputed to minors are offences against decency, vagabondage, fraud and the destruction of trees, plants and crops. At the Elmira Reformatory<sup>1</sup> in the State of New York nearly 58 per cent. of the inmates are between sixteen and twenty years of age, 32 per cent. are between twenty and twenty-five years of age, and 10 per cent. are between twenty-five and thirty: of these offenders 93 per cent. in round numbers were convicted for offences against property, 6 per cent. for offences against the person, and 4 per cent. for offences against the peace. These statistics may be regarded as confirmatory of the figures relating to France, and both sets of statistics may be taken as showing how high the percentage of theft is among the young.

When full maturity is reached, and the bodily and mental powers of the criminal are at their maximum, the form which crime assumes undergoes a corresponding change. Cases of simple theft give place to formidable crimes of violence, such as burglary and homicide. This is another instance of the close connexion between the physical and mental attributes of the criminal as conditioned by age and the nature of his offence. As years advance this intimate union is on the whole maintained; the decay of the physical powers is accompanied by a corresponding decrease in violent crime, and offences requiring the exercise of cunning, craft, and skill form a high percentage of the crimes committed by persons who are approaching middle life. But as life advances crime materially diminishes, and offenders over fifty form a small proportion of the prison population. The

<sup>1</sup> See *Sixteenth Year Book of the New York State Reformatory*.

decade between thirty and forty is the most criminal period of life. Nearly 26 per cent. of the local prison population of England and Wales are between these ages, a fact which further establishes the close relation between bodily activity and the pursuit of a criminal career.

In a recently published volume, entitled *Nouvelles Recherches de Psychiatrie et d'Anthropologie Criminelle*, Prof. Lombroso, the celebrated author of *L'Uomo Delinquente*, still adheres to his theory that the criminal has as a rule a distinct physical conformation, and asserts that his opponents ignore the existence of a criminal type because they do not know how to look for it. Lombroso's typical criminal is a large and clumsy individual, with long arms, large jaws, a retreating forehead, projecting eyebrows, enormous ears, and other minor anatomical malformations. He has a defective sense of smell, but is gifted with keen sight and hearing. His features are repulsive, and he has a cold, hard, and stony look, which typifies his insensibility to pain. In his walk, gestures, conversation, and general habits he resembles the savage and the pre-human forms of the race. It is these peculiarities in combination which constitute the criminal type. At the Congress of Criminal Anthropology held in Paris in 1889 the existence of this type was ably combated by Manouvrier and Topinard, and it was contended that the anomalies visible in so large a proportion of criminals are anomalies arising from degeneracy and not from atavism. Whatever may be the ultimate fate of Lombroso's theory, he has unquestionably succeeded in calling attention to the fact that a larger proportion of anomalies is to be found among the criminal population than among ordinary members of the community. Sometimes these anomalies are inherited from diseased and degenerate parents, sometimes they are produced by a wretched childhood, and sometimes they are the result of a criminal mode of life. The amount of physical debility among the prison population may to some extent be measured by a statement contained in the report of the Medical Inspector of English Prisons for 1890. This report states that of the prisoners received at Pentonville with sentences to hard labour about one-half are unfit for such labour, and are exempted from it on medical grounds. Hard labour merely means a form of employment which any ordinary man can easily accomplish in five or six hours, and the unfitness of so large a proportion of offenders to perform it would seem to establish the defective physical capacity of criminals taken as a class.

The question now arises: How far is this defective physique

of the criminal population the result of criminal habits of life? If we take the physical condition of the inmates of the Elmira Reformatory as a test, it would appear that the practice of a criminal career is largely responsible for the enfeebled state of the prison population. According to the report of this institution for 1891, no less than 87 per cent. of the young persons admitted into it were in good health, and as this reformatory was established for beginners in crime, these statistics would seem to show that it is a life of crime which debilitates a considerable proportion of the criminal population. Many of the peculiarities in criminals which Lombroso ascribes to atavism are also explicable on the hypothesis that they arise from a career of crime; it is unquestionable that the look, walk, gestures, and slang of many criminals are produced in this way. At the same time it is not to be denied that a high percentage of the criminal classes are born with physical defects and anomalies of anatomical and physiological conformation, but whether these peculiarities are the direct or merely the indirect causes of a criminal life is a matter which affords scope for considerable differences of opinion. On some points, however, there is little room for dispute. It will be admitted on all sides that a person born with a degenerate and feeble constitution is much less likely to obtain employment and to earn a livelihood than a normally constituted man. Such a person is therefore much more likely to become a criminal, but it is economic causes in this instance which directly drive the man to crime, and not an innate perversity arising from physical defects. Again, a person may be perfectly able, so far as physique is concerned, to work at his trade or calling, but certain anomalies in his personal appearance create an impression against him, and where there is room for choice, others are preferred before him. If such a man in consequence becomes a criminal, the connexion between his bodily structure and his criminal career is only an indirect one. Even where economic causes do not come into play, the consciousness of physical peculiarities sometimes exercises a disturbing effect upon conduct. It is generally believed that Byron's lame foot had a good deal to do with his cynical and pessimistic views of life, and Shakespeare's Richard the Third, after discanting on his deformities, resolves to become a villain :—

And therefore—since I cannot prove a lover,  
To entertain these fair well-spoken days—  
I am determined to prove a villain.

It would therefore seem that the existence of physical defects has a tendency in many cases, though by no means all, to embitter the disposition, and to prepare the way for criminal courses; yet the connexion between physical anomalies and criminal conduct is even in this instance only an indirect one.

I do not however wish it to be inferred from the preceding observations that there are not cases in which there is a direct causal connexion between the criminal's life and his physical organism: it is indubitable that there are such cases, and that a debilitated body has a tendency to produce a perverted mind. Nevertheless I should be inclined to maintain that in all instances where the organism, owing to its defective or anomalous structure, is responsible for a criminal career, that course of life is produced much less frequently by the direct effect of the organism on the character than by the manifest inadaptability of the organism to the social and economic conditions around it. In fact, the criminal life of a defectively organised human being is merely an instance of the operation of the law of natural selection. In the inevitable and unceasing struggle for existence a considerable proportion of the feeble, the degenerate, the malformed, the anomalous are not fitted for one reason or another to earn a living by normal methods, and society looks upon all who adopt abnormal methods as criminals. It therefore follows that the presence of a high percentage of physical anomalies among offenders is not a key to their mental attitude, is not a proof of the existence of a criminal type: it is rather a proof of a fact apparent everywhere, that the physically anomalous and incapable are less adapted to fight the battle of life, and are accordingly more likely to come into collision with the law. In our view therefore the physical factors of crime are in the main factors of a character which hinder the person burdened with them from honestly procuring the means of existence: these factors are very rarely by themselves the immediate and determining causes of crime.

The same remark applies with very nearly the same amount of force to mental defects. All persons mentally erratic, mentally peculiar, mentally below the average are badly adapted to fill a place in the economic constitution of society. These defects need not necessarily be of a criminal character. Excessive vanity, excessive irritability, an unsettled disposition, fitfulness of mind, instability of purpose and many other characteristics very prevalent among the criminal classes are not in themselves directly related to crime: they are merely a class of attributes which have the

effect of excluding their victims from participating in industrial life and its rewards. In a multitude of cases it is this exclusion which produces the criminal career; it is not any overwhelming tendency to wrong-doing. But while this is so, it is nevertheless important to note that want of mental adaptation to the economic order of things has the effect of rousing the criminal instincts into activity, and above all the instinct of cupidity. The form in which this instinct will manifest itself depends upon the sex, age, strength and general mental ability of the individual: it is these conditions which determine whether he will become a swindler, a burglar, a pickpocket, a coiner, and so on. Many crimes, however, have little or no connexion with the economic conditions of existence. They would still take place even if every human being had all the necessities of life in abundance. Crimes of this nature are as a rule a product of the individual character, and arise from jealousy, hatred, irritability, vengeance, libertinage, vanity, combined with an abnormal lack of either pity or probity. In his work *La Criminologia* the Italian jurist Garofalo has rightly pointed out that the truly criminal disposition is always distinguished by an utter absence, or at least a very feeble development, of the sentiments of pity or probity. Where these two sentiments exist with a moderate amount of vitality they succeed in interposing a barrier against the blind outbursts of instinct and passion; and in cases where we find offenders possessing a fair share of pity or probity we generally discover that external circumstances, and not innate impulses, have played a paramount part in producing the offence. In the space at our command it is obviously impossible to enter into all the ramifications of criminal psychology: it must suffice to say that in this department of criminology it is most essential to differentiate between psychological attributes which directly betray a criminal disposition and psychological defects which cripple the economic or social career of the individual and drive him by a circuitous path into a life of crime.

The cosmical causes which enter into the production of crime may be briefly summarised as consisting of climate, soil, seasons, temperature, and the configuration of the earth. It has been maintained by De Greef that conduct is entirely dependent upon these cosmical factors, and, although this statement is probably too absolute, there can be no question that the various forms of civilisation are, to a very large extent, the product of cosmical conditions, and that in so far as conduct is related to civilisation, it is indirectly moulded and modified by the operations of external nature.

It is, however, held by Guerry, Lombroso, Ferri, and others that external nature has more than an indirect influence on human actions, and that the conduct of human beings is for one thing directly dominated by variations of temperature. It is pointed out, in support of this view, that the inhabitants of warm climates commit more offences against the person, whilst the inhabitants of cold climates commit more offences against property. As a general answer to this theory, it may be said that, as international criminal statistics are incapable of comparison, we are unable to subject the theory to the test of facts. In so far as this reply affects the international statistics of thefts, it must be accepted as a valid one, but it must be admitted that it does not apply with quite the same force to the statistics of homicide. No doubt, an accurate comparison of the amount of homicide committed in the various civilised communities is an impossibility, owing to disturbing circumstances which have already been referred to; but, at the same time, international statistics, with all their imperfections, make it tolerably plain that Italy and Spain, in proportion to their population, produce a larger amount of homicides than, for instance, Germany or England. Again, Australia, with a higher temperature than Great Britain, has also a higher proportion of homicides. Admitting, for a moment, the validity of international criminal statistics, we find that they do not all point in the same direction as to the effect of temperature on crime. India, for example, which is certainly much hotter than this country, has, at the same time, a much smaller proportion of murders to the population, and Colajanni, in his recent work, *La Sociologia Criminale*, mentions several other parts of the world where a high temperature is not accompanied by a high percentage of crimes of blood. It may, however, be urged, in reply to Colajanni, that the evil effects of temperature on the character are neutralised in India and elsewhere by ethnic, historic, religious, social, and economic conditions, and that where these conditions are almost the same—as, for instance, in Great Britain and Australia—the direct action of temperature is seen in the higher percentage of homicides in the warmer of the two countries.

But, however this may be, it is, at least, certain that the alternation of the seasons exercises a considerable effect on the amount and nature of criminality. The tables of Dr. Corre, in his work on *Crime et Suicide*, show that in France offences against the person are most numerous in summer, whilst offences against property are most prevalent in winter. In England we have no statistics for testing with

completeness the exact relation between season and crime, but it appears from the figures relating to indictable offences that the largest number of crimes against the person are committed in July, August, and September; whilst the largest number of offences against property are committed in October, November, and December. How are these facts to be interpreted? Are these variations in the nature of crime to be ascribed to the direct action of variations of temperature, or are they to be attributed to variations of daylight? As far as offences against property are concerned, I should be inclined to say that the short days and the long nights of winter are much more responsible for the increase of theft at that season of the year than any alterations in meteorological conditions; that, in short, it is opportunity, and not temperature, which makes the thief. This opinion is supported by the statistics of crime in Paris. According to the *Annuaire Statistique de la Ville de Paris* (1857), most of the thefts committed in the French capital are perpetrated in summer: it is in summer that the well-to-do Parisian leaves his house for the country; it is, therefore, at that season that the Parisian thief avails himself of the opportunity to ply his calling. It is very probable that if we had statistics bearing upon the annual variations of crimes against property in London, a similar state of things would be revealed.

Crimes against the person and against morals spring, as a rule, from motives which differ considerably from crimes against property, and, although the important factor of opportunity must not be omitted in estimating the causes of these offences, it is probable that temperature has a direct effect in multiplying or diminishing them. Marro<sup>1</sup> has pointed out that the conduct of prisoners is not so good in summer as in winter, and similar results have been arrived at with respect to the conduct of pupils at public schools. In the outer world increased opportunities for contact and conflict arising out of the presence of agreeable weather might be held to account for the increase of offences against person and morals in the summer season, but when we find that refractory conduct also increases in institutions where opportunities for contact and conflict are the same all the year round, we are almost forced to the conclusion that a heightened temperature has some direct influence in determining the actions of men.

The social causes of crime are so numerous and complex

<sup>1</sup> *I Caratteri dei Delinquenti.*

that it is impossible in this place to do more than touch upon a few of the most conspicuous. It is probable that the most important of these social causes at the present time is the increasing concentration of population arising mainly out of the centralisation of industry. In all nations where the towns are increasing at the expense of the country, crime has a distinct tendency to grow rapidly. In large centres of population the physical and industrial conditions of life are in a highly defective state, and a large degenerate class springs up, most of which is unsuited for industrial occupations. Many members of this class resort to a career of crime. In large cities the criminal has also a better field, as well as more abundant opportunities of escape. According to police statistics not half as many criminals are caught in London as in the country, and as a rule the larger the town the easier it is to commit a crime in it without being detected. The close connexion between the growth of large cities and the increase of crime may be estimated by the fact that London, which contains less than one-fifth of the population of England and Wales, is yet responsible for more than one-third of the annual number of indictable crimes. London requires one policeman to every 349 of the population, the provincial towns require one policeman to every 672 of the population, the counties only require one policeman to every 1134 of the population. The percentage of police to the population is a good measure of the extent of criminal activity in the different divisions of the country, and according to this index we are justified in observing that the larger the town the more criminal it becomes. It is customary just now for official optimists and optimistic politicians to try and persuade people that crime is decreasing in this country, but it is obvious to any one who studies the facts that the preliminary conditions of a lowered percentage of crime do not exist. The recent census reveals the unpleasant fact that the rural population has only increased about 3 per cent. in the decennium, whilst the urban population has increased 15 per cent. Until these figures are reversed, or until some transformation is effected in the mechanism of town life, it will be vain to hope for a genuine decrease in the amount of crime. It may be made apparently smaller by changes in criminal procedure, shortening of sentences and other similar devices, but we may rest assured that until the fundamental causes of the evil disappear, crime will not diminish either in volume or intensity.

It was at one time very usual to assume that poverty

was the principal social cause of crime, but in recent years considerable differences of opinion have arisen upon this point. Garofalo maintains that the well-to-do in proportion to their numbers are just as criminally disposed as the poor and needy, and it must be admitted that both he and Ferri are able to produce many striking facts and arguments in support of this contention. According to Dr. Földes, the Austro-Hungarian criminal statistics show that the well-to-do perpetrate fewer thefts than the poorer classes; but, on the other hand, they are responsible for quite as many murders, and in proportion to their numbers they commit a higher percentage of offences of a serious character. Mr. Roland Falkner has shown that in America the native-born citizen, notwithstanding all his comforts and advantages, is more addicted to crime than the poor emigrant from Europe; and M. Joly assures us that in France there is no intimate relation between poverty and crime. I have pointed out elsewhere<sup>1</sup> that in England the prison population is highest when work is most plentiful, and lowest when work is hardest to find. The twelfth report of the Scotch Prison Commissioners also reveals the fact that the prison population was greatest when pauperism was lowest. In the face of these facts it is impossible to contend that crime is merely an economic question, and that the criminal is simply a product of wretched material conditions. What appears to be the true view in this matter is that material circumstances exercise a certain influence on the nature of crime, but have comparatively little effect in increasing or diminishing its total amount. In other words, crimes against the person are highest when material prosperity is at its height and lowest in depressed times, whilst offences against property are highest in periods of depression and lowest when trade revives. But the total volume of crime is very slightly affected by these alterations in its nature. It is vain therefore to anticipate, as many are inclined to do, that a transformation of the economic constitution of society from individualism to collectivism will result in the abolition or even in the diminution of crime. Even on the supposition that such a transformation is successful in banishing distress from the community, it will only alter the channels in which crime is now accustomed to run. A state of society in which everybody is provided with the necessities of civilised life will be less addicted to offences against property, but more prone to

<sup>1</sup> *Crime and its Causes*, p. 143.

crimes against the person: theft will probably decrease (it will not disappear, inasmuch as many offences against property do not arise from economic causes), but maiming, murder, and violation will increase: the volume of crime will remain the same, but the population will run more risks of being maltreated than of being robbed. It is probable that the bulk of the community will prefer the latter alternative to the former.

It was at one time a prevalent idea that ignorance was a very important factor in the production of crime, but almost all investigators in the department of criminal statistics are hostile to this belief. In France, Guerry, Yvernes, Haussenville; in Italy, Lombroso, Garofalo, Ferri; in Belgium and Germany, Quetelet, Von Oettingen, Valentini, Starcke, are all more or less emphatically of opinion that instruction in reading and writing has little or no effect in elevating the character, and diminishing the annual volume of crime. The most that is admitted by the majority of competent inquirers is that education sometimes determines the form which crime will assume; the educated criminal, they maintain, seeks to attain his ends by fraud rather than violence, and Dr. Bosco is of opinion that the spread of education has had the effect of diminishing the percentage of homicides. But even these small concessions to the worth of education are the subject of much dispute. The only kind of education which possesses undoubted value from a moral point of view is the education of the character; and, as Tarde has shown, this form of education is much more the product of imitation than of precept. On the whole subject of the relations between education and conduct, Goethe goes to the root of the matter when he says "that everything is pernicious which liberalises the mind but gives us no mastery over ourselves".

It is also coming to be recognised that the effect of drink on crime has been exaggerated. It is a remarkable fact that the most drunken nations in Europe are also the very nations that are least addicted to crimes of blood, and if sobriety is to be accounted as the chief preservative against criminality, we ought to find a very low percentage of offences amongst the temperate communities in the south of Europe. As a matter of fact it is these communities which present the blackest criminal records, and although international statistics are not capable of being used for purposes of exact comparison, they at least possess the merit of making it perfectly plain that sober communities are just as criminally disposed as communities which contain a large percentage of drunkards.

The relations between nationality and crime have been exhaustively dealt with by Colajanni, who arrives at the conclusion that the varying degrees of criminality among different peoples are not to be ascribed to racial differences. Quetelet, on the other hand, considers nationality one of the most essential factors in the production of crime. The question is one which is rather difficult to decide, inasmuch as the criminal characteristics of a community may be attributed with equal plausibility either to nationality or to social and economic conditions. It is, however, certain that different nations have different temperaments, and that the highest percentage of offences against the person is committed by hot-blooded peoples. The existence of this fact would seem to show that nationality is not without some influence on the propensity to crime, but the precise extent of this influence it is of course impossible to determine. Other influences which exercise a distinct effect on criminal statistics are occupation, political institutions, militarism, and religious beliefs. We must, however, content ourselves with mentioning these factors; to discuss them would involve too great a demand on the space at our disposal.

We have now touched upon the individual, the cosmical, and the social causes of crime, and the general conclusion at which we arrive is that criminal conduct is a product of all these causes working together, but operating in each case with different degrees of intensity. Sometimes individual causes preponderate, sometimes social, sometimes cosmical, and in most instances it is difficult to say which is the determining cause. It would of course be a very excellent thing if the exact scope of the operation of these three sets of causes was capable of being accurately defined, but the complicated and impalpable nature of most of them makes this almost an impossibility. The present tendency of Italian thinkers is to lay the greatest amount of stress on individual and cosmical causes; in France the tendency is to place social causes in the front. These diversities of view are to a considerable extent resolvable into differences of terminology, and in any case it is not of paramount importance for practical purposes to be able to measure the precise value of each of the factors already mentioned so long as the influence of all of them is recognised in the production of crime.

A few words must now be said, in conclusion, as to the repression of crime. Since the days of Beccaria and Howard, the supreme object of persons interested in criminal matters has consisted in aiming at a diminution in the amount of

punishment and at an alleviation of the prisoners' condition when undergoing a sentence of imprisonment. These ideas came to the front as a revolt against the inhumanity perpetrated on offenders in bygone times, and, although good and needful in their day, it is now coming to be recognised that they are being pushed to an extreme. After all, it must be borne in mind that the supreme object of criminal legislation is not the diminution and mitigation of punishment, but the suppression of crime. It is also coming to be recognised that the theories of Howard and Beccaria have not succeeded in suppressing the criminal population, or even in preventing it from growing to an alarming extent. Such a result was not to be expected : a mere alleviation of the offenders' lot is not likely to produce a decrease in the total amount of crime. In order to effect this object, we must enter on an examination of the causes which tend to make men criminals : we must study the criminal himself : we must inquire into his physical, mental, social, and economic condition, and when a sufficient body of well-ascertained facts has been collected upon all these points, we shall then be in a position to devise scientific measures for the repression of crime, with some prospect of success. Although many more facts are needed, the number which has already been gathered together makes it absolutely certain that the present system of cellular imprisonment will never lessen the volume of crime. What is the origin of this system ? It is monastic, and it is based on the monastic idea that a period of solitude and contemplation is calculated to move the heart to penitence. It is now evident that this monastic method of treatment has failed with the criminal classes. It does not make the habitual criminal reflect upon his past, inasmuch as he is generally incapable of reflecting much at all : twenty-three hours in a cell, out of every twenty-four, is apt to make the physically degenerate criminal still more degenerate, and the multitude of morbid criminals still more morbid. We have seen that cities, with their in-door life, are the hotbeds of degeneracy and crime ; the cell is an aggravation of this in-door existence, and is, therefore, calculated to intensify the evil it is meant to cure. On the other hand, criminal statistics conclusively show that rural open-air life is the great preservative against crime. Healthy frames and healthy feelings are generated by contact with the soil. Just as putrid matter is purified by contact with mother earth, so are the human excrescences of civilisation disinfected by a return to those more natural conditions of existence which are to be found in the cultivation of the

ground. Abolish the cell, establish out-door occupations—this is at present the most pressing need in dealing with the repression of crime. Already the cell has been practically abolished in most of the convict prisons of Europe, with the result that grave offenders do not relapse so readily as offenders sent to cellular imprisonment. If this is the effect of an open-air life on the hardened offender, how much more satisfactory would be its effect on a novice who had just begun a life of crime!

For the discussion of further reforms in criminal legislation I must refer the reader to Prof. von Liszt's articles in the *Zeitschrift für die gesamte Strafrechtswissenschaft*, to an interesting work on the criminal by Mr. Havelock Ellis, to Prof. Ferri's important volume *La Sociologia Criminale*, and to M. Henri Joly's *Le Combat contre le Crime*.

## IV.—ON THE PROPERTIES OF A ONE-DIMENSIONAL MANIFOLD.

By BENJ. IVES GILMAN.

THE relation of anything A to anything B is called the converse of the relation of the latter to the former. Let us use the term  $r$  as a general symbol of relation, and the term  $cr$  as a general symbol of converse relation; and let us symbolise any instance of a particular relation by writing after a letter signifying something related in that way, first a sign  $r$  or  $cr$  of the relation, and then a letter signifying something to which that indicated by the first is so related. An instance of the relation  $r'$  or  $cr'$  may then be symbolised  $A r' B$ , or  $A cr' B$ .<sup>1</sup>

Let us use this sign of relation in connexion with the customary symbolism of the algebra of Logic, as follows: The expression  $A r B$  denoting any instance of the relation  $r'$ , the expression  $A \bar{r}' B$  will denote any other instance of the relation of anything to anything; the expression  $A (r' + r'') B$  will denote any instance of the relation of anything to anything that is either  $r'$  or  $r''$ ; the expression  $A \bar{r}' \bar{r}'' B$  will denote any instance of the relation of anything to anything that is both  $r'$  and  $r''$ . The equation of any expression to zero will mean that there exists no instance of the relation of anything to anything of the kind indicated by the expression. The equation of any expression to infinity will mean that every instance of the relation of anything to anything is of the kind indicated by the expression.

<sup>1</sup> The symbolism used in the text differs somewhat from those employed by De Morgan and by my former instructor Mr. C. S. Peirce in their papers on the logic of relation. De Morgan uses the expression  $X . LY$  to signify "that X is some one of the objects of thought which stand to Y in the relation L, or is one of the Ls of Y," and  $X . \bar{L}Y$  to signify "that X is not any one of the Ls of Y". (*Transactions of the Cambridge Philosophical Society*, 1864, vol. x., "On the Syllogism and the Logic of Relation," p. 341.) Mr. Peirce uses expressions of the form  $(A : B)$  to denote individual dual relatives, or particular instances of dual relation, and the letter K as a symbol of converse relation. ("Description of a Notation for the Logic of Relatives," Cambridge, U.S.A., 1870. "On the Algebra of Logic," chap. iii. "The Logic of Relatives," *American Journal of Mathematics*, vol. iii. Baltimore, 1880.)

Every instance of the relation of anything to anything must be either an instance of  $r'$  or other than any instance of  $r'$ . Let us express this proposition about each of the relations  $r'$  and  $cr'$  in two equations as follows :—

$$A (r' + \bar{r}') B = \infty$$

$$A (cr' + \bar{cr}') B = \infty$$

By multiplication we have the equation :—

$$A (r' cr' + r' \bar{cr}' + \bar{r}' cr' + \bar{r}' \bar{cr}') B = \infty$$

In words, every instance of the relation of anything to anything must belong to one or other of four mutually exclusive classes ; either it is an instance of both  $r'$  and  $cr'$ , or of  $r'$  and not of  $cr'$ , or of  $cr'$  and not of  $r'$ , or of neither  $r'$  nor  $cr'$ .

Let us now assert in regard to the two relations  $r'$  and  $cr'$  that there exists no instance belonging to certain of the four possible classes founded upon them. Let us say

$$(I.) A (r' cr' + \bar{r}' \bar{cr}') B = 0$$

In words, nothing is both  $r'$  and  $cr'$  to anything and nothing neither  $r'$  nor  $cr'$  to anything. Subtracting this equation from the previous one, we have :—

$$A (r' \bar{cr}' + \bar{r}' cr') B = \infty$$

In words, from the assertion that every instance of the relation of anything to anything must belong to one or other of four classes and the assertion that none belongs to either of two of them, we infer that every one must belong to one or other of the remaining two ; that is, that the relation of anything to anything is either  $r'$  and not  $cr'$ , or  $cr'$  and not  $r'$ .

The two relations  $r'$  and  $cr'$  are therefore not the same, for if  $r' = cr'$  Prop. I. becomes  $A (r' + \bar{r}') B = 0$ , which is impossible. It follows that  $r'$  is not a relation of identity, that is, does not subsist between anything and itself ; for the converse of identity is itself identity.

To this proposition about relations let us add the following about the combination of relations, in which the expression  $A r' B r' C$  means any instance in which a thing is  $r'$  to something which is itself  $r'$  to something.

(II.) If  $Ar' Br' C$

then  $Ar' C$

In words, anything which is  $r'$  to something is  $r'$  also to anything to which the second is  $r'^1$ .

It follows that if  $Acr^1 Bcr^1 C$  then  $Acr' C$ . For by the definition of converse relationship, if  $Ar' B$  then  $Bcr' A$ , and if  $A cr' B$  then  $Br' A$ ; whence if  $Ar' B$  then  $Bcr' A$ , for if  $Bcr' A$  we have  $Ar' B$ ; and likewise if  $Acr' B$  then  $Br' A$ . Therefore if  $Acr' Bcr' C$  and  $Acr' C$  we have  $Cr' Br' A$  and  $Cr A$ , which is contrary to Prop. II.

The thesis of the present note is that these two propositions are ultimate constituents of the notion of one dimensionality.<sup>2</sup> The two following which we assume to be further elements in the idea are deductions from these. If of any multiplicity it is true that the relation of any element to any other is either a certain one or its converse and not both, and that in whichever relation any element stands to another it stands in the same to any third element to which the second is similarly related, the two propositions which follow are true of any finite group of elements that may be selected from it.

(1) There are two elements X and Y of the group, of which it can be affirmed that there is no element of the

<sup>1</sup> Mr. Peirce, following De Morgan, calls any relation of which this proposition is true a *transitive* relation.

<sup>2</sup> The distinctive characteristic of a singly extended manifold is formulated by Riemann in a sentence of which the following is a translation (*Gesammelte Mathematische Werke*. Leipzig, 1876. "Ueber die Hypothesen welche der Geometrie zu Grunde liegen," p. 257): "If we proceed with a notion whose determinations form a continuous manifold, from one determination in a determinate way to another, the determinations passed through form a singly extended manifold, whose essential characteristic is that from any point a continuous progress within it is possible only toward two sides, forward or backward". The definition of single extension-form given by H. Grassmann is similar (*Die Lineale Ausdehnungslehre*. Leipzig, 1878. Anhang iii. "Kurze Uebersicht über das Wesen der Ausdehnungslehre," p. 279): "The general form of extension which corresponds to a line is the whole of the elements through which an element passes in changing its state continuously. . . . If the element changes its state always in the same way, so that when from any element  $a$  of the structure (Gebilde) through such a change another element  $b$  is produced, then by a like change from  $b$  a new element  $c$  of the same structure is produced, there arises the structure corresponding to the straight line. . . . The straight line is constructed by the change of position of a point in a constant direction: substituting for direction, manner of change, the notion here intended [of single or simple extension-form] results." The conception which it is sought to analyse in the present paper is that of one dimensionality alone, apart from the notion of continuity. According to Professor Stumpf (*Tonpsychologie*. Leipzig, 1883. I. § 8, p. 144) what is meant by saying that the domain of sensations of pitch has but one dimension is

group which is either  $r'$  to X or  $cr'$  to Y; and of no other element can it be affirmed either that there is none  $r'$  or none  $cr'$  to it.

For, comparing any two elements of the group, by the corollary to Prop. I. one will be  $r'$  to the other. Comparing this one with a third, we may take that one of the new pair which is  $r'$  to the other to compare with a fourth, and so on until all the elements of the group have been drawn into the comparison. Moreover, that member of the second pair which is  $r'$  to the other will also be  $r'$  to the remaining member of the first two pairs; for either this has emerged in the comparison, the same element having been  $r'$  to the other in both pairs, or the third element is  $r'$  to that member of the first pair which was  $r'$  to the other, and consequently by Prop. II. is also  $r'$  to that other. In like manner the element which is  $r'$  to the other in the third pair is  $r'$  also to all the other members of the three pairs; and in general at any step of the comparison the element which is  $r'$  to the other in the pair under consideration will be  $r'$  also to all the other elements thus far considered. Hence that element which is  $r'$  to the other in the pair formed with the final element of the group is  $r'$  also to all the other elements therein. Moreover, there is but one element which is  $r'$  to

"that of any three tones under all circumstances only one can be the intermediate one". In explanation of the term "intermediate" he writes: "Supposing the tones  $dga$  to be given as a simple sum of qualities, the following judgments of likeness result,  $da$  [meaning the amount of difference between  $d$  and  $a$ ]  $\triangleright ga$ ,  $da \triangleright dg$ : and this we express in words . . . briefly by calling  $g$  intermediate". If this be taken as a definition of the relation "between" it is evidently implied in the meaning of the word that of any three things only one can be the intermediate one. For if anything  $b$  is between two other things  $a$  and  $c$  we have  $ac \triangleright ab$ ,  $ac \triangleright bc$ ; if  $a$  is between  $b$  and  $c$  we have  $bc \triangleright ab$ ,  $bc \triangleright ac$ ; if  $c$  is between  $a$  and  $b$  we have  $ab \triangleright ac$ ,  $ab \triangleright bc$ ; one inequality in each of the pairs contradicting one in each of the others. Further, to say that a manifold has one dimension is not the same thing as to say that of any three of its elements one is always intermediate. For suppose that the intermediate in each of the possible trios ABC, ABD, ACD, BCD, which can be formed from four points ABCD, is represented by the dotted letter. The points will then not lie on a straight line: or, in other words, not every manifold of which the above proposition is true is one-dimensional. It is necessary besides to make some assertion like the following, that if two elements are both intermediate to the same extremes, one is between the other and one extreme, and the other between the first and the other extreme. The two propositions taken together determine a manifold whose elements are characterised by oppositely varying amounts of difference from two extreme elements. In the discussion of the text it is sought to give a formulation of one-dimensionality in which the general notion of relation and converse relation is substituted for that of greater and less difference.

every other in the group ; or in whatever order the elements be compared in the manner described the member of the final pair which is  $r'$  to the other will always be the same element. For supposing several elements  $XX'...X^n$  each  $r'$  to all the others in the group ; taking any two of them  $X$  and  $X'$  we have  $Xr' X'$  and  $X'r' X$  whence by conversion  $Xcr' X'$ , that is we have  $Xr'cr' X'$  which is contradicted by Prop. I. There must therefore be one, and there cannot be more than one element  $X$  which is  $r'$  to all the others in the group, and to which therefore all the others are  $cr'$ . It follows that there is no element of the group that is  $r'$  to  $X$ , for all the others are  $cr'$  to it, and it cannot by the corollary to Prop. I. be  $r'$  to itself.

In the same way it may be shown that there is one and only one element  $Y$  which is  $cr'$  to all the others, and to which therefore no element is  $cr'$ .

(2) Among the number of elements of the group to which a given one  $M$  other than  $Y$  is  $cr'$  there is one and only one  $m$ , of which it can be affirmed that there is no element of the group which is both  $r'$  to  $M$  and  $cr'$  to  $m$ ; and among the number of elements of the group to which a given one  $N$  other than  $X$  is  $r'$ , there is one and only one  $n$ , of which it can be affirmed that there is no element of the group which is both  $cr'$  to  $N$  and  $r'$  to  $n$ .

For since by Prop. I. every element is either  $r'$  or  $cr'$  to every other, and since  $X$  alone is  $r'$  to all the other elements of the group, any element  $M$  other than  $X$  is  $cr'$  to one or more elements. If to only one this one will be  $X$  (since every other element is  $cr'$  to  $X$ ) and  $X$  cannot be  $cr'$  to  $X$ . If to more than one element there will by the principle above established be one and only one among them to which none is  $cr'$ , which is the proposition to be proved.

The corresponding proposition with regard to  $N$  and  $n$  may be proved in like manner.

Let us speak of any element of a group which is  $r'$  to another and  $cr'$  to a third as *intermediate* to the second and the third. It follows that every other element in the group is intermediate to  $X$  and  $Y$ , and that no element in the group is intermediate to  $M$  and  $m$  or to  $N$  and  $n$ . Let us further speak of the two elements  $X$  and  $Y$  to which all others are intermediate as the *extremes* of the group ; and of any two elements to which none in the group is intermediate as *adjacent* or next in the group. Let us call  $m$  the  $r'$ -adjacent of  $M$ , and  $n$  the  $cr'$ -adjacent of  $N$ .

It follows that there is one and only one element in the

group adjacent to each of the extremes, to X a  $cr'$ -adjacent and to Y an  $r'$ -adjacent; and that to every other element in the group there are two and only two, one an  $r'$ -adjacent and the other a  $cr'$ -adjacent.<sup>1</sup>

For since X is other than Y it has by Prop. II. one and only one adjacent among those that are  $cr'$  to it; but since by Prop. I. all the other elements are  $cr'$  to it this is its only adjacent. Likewise Y has one and only one, and that an  $r'$ -adjacent. Further, by Prop. II. every element other than both X and Y has one and only one adjacent among those that are  $r'$  to it, and one and only one among those that are  $cr'$  to it; and since every other element is either  $r'$  or  $cr'$  to it by Prop. I., those two are its only adjacents.

As examples of manifolds of one dimension we may take those of time, one-dimensional space or the straight line, quantity, intensity, number and pitch. Of the relations between the different elements of each of these manifolds propositions of the form of I. and II. are true. In time the elements are called instants, in the straight line points, in quantity amounts, in intensity degrees, in number integers,

<sup>1</sup> Any group of elements in a manifold of one dimension constitutes therefore a *series*, according to the definition of that term given by Prof. James (*Psychology*, ii. p. 645). After laying down the principle that there are such things as kinds of relations (which is assumed in this paper), Prof. James goes on to assert that the mind can form groups of terms, characterised in the following way by one kind of relation: one of the terms A bears a relation of this kind to another B, which in its turn is so related to another C, &c., &c., until the group is exhausted; such a group being a *series*.

The reasoning of the text exhibits this proposition as a deduction from I. and II., the term A being either extreme of a one-dimensional group, B its adjacent, C the remaining adjacent of B, &c., &c., the final term of the series being the other extreme of the group. But while every one-dimensional group is a series, not every series is a one-dimensional group, for the definition just given involves the determination of the relation of each term to at most two others, while Prop. I. determines the relation of each to every other. This latter determination can be effected by combining with the definition of a series the proposition we have called II., which Prof. James terms the axiom of skipped intermediaries or of transferred relations and regards as "on the whole the broadest and deepest law of man's thought". A one-dimensional group appears then as a series of which the axiom of skipped intermediaries is true, or, to use De Morgan's term, whose characteristic relation is a *transitive* one. But the analysis of the conception of one-dimensionality into the ideas of series and transition is less simple than that given in the text; for what the latter involves besides the conception of transition is a disjunctive proposition (I.) of simple relation only, while the definition of a series consists in the assertion of a certain special form of an indefinitely continued composition of relations.

in pitch pitches. Of any two instants one is always earlier than, or the converse of earlier than, which is called later than, the other; of any two points on a given straight line one is always either in a given relation of position, called a direction, from the other, or in the converse relation, called the opposite direction, from it; of any two amounts or degrees of integers one is always either greater, or the converse of greater, which is called less, than the other; of any two pitches one is always either higher, or the converse of higher, which is called lower, than the other. Further, any instant which is earlier than a second is also earlier than any later than the second; any point in a straight line which is in a given direction from a second is in the same direction from any in the opposite direction from the second; any amount, or degree, or integer, which is greater than a second is also greater than any less than the second; and any pitch which is higher than a second is higher also than any lower than the second. Whence taking any finite group of instants one and only one will be earlier than all the others and one and only one later than all the others; there will be one adjacent to the former and later, and one adjacent to the latter and earlier; and two adjacent to any other, one preceding it and one following it; and likewise for groups of points, amounts, degrees, numbers, or pitches.

Of groups of points in two- or three-dimensional spaces like assertions are not possible. It cannot be affirmed that of any selection of points on a plane or on a solid two are extremes, nor that no point in a group has more than two adjacents; in these cases, while Prop. II. is true, Prop. I. is false. An example of a manifold which may be lacking in these attributes of one-dimensionality from opposite causes is presented by a clearing-house. While Prop. I. may be true of any clearance, *viz.*, each bank may be either in the relation debtor or its converse creditor to every other, yet it does not follow either that there is one bank which is debtor (or creditor) to all the others, or that there are any pairs of them which have no intermediate (*i.e.*, a bank which is debtor to one and creditor to the other); for Prop. II. will not necessarily be true; it cannot be argued that because a bank is debtor to a second which is debtor to a third it is also debtor to the third.

Each element in any group from one manifold of one dimension (characterised, we may say, by the relation  $r'$ ) may be connected with a different one in another manifold (characterised by  $r''$ ) in such a way that adjacent elements in the  $r'$  group will be connected with adjacent elements in the

corresponding  $r''$  group.<sup>1</sup> In any connexion of the  $r'$  group with  $r''$  elements which fulfils this condition either every  $r''$  element will be  $r''$  to the same number of elements as that to which the element with which it is connected is  $r'$  or as that to which it is  $cr'$ . We may speak of these alternatives as the two possible ways in which adjacent elements in a group from one manifold may be connected with adjacent elements in a group from another.

For connecting the  $r'$  extreme A of the group (that which is  $r'$  to all the others) with an  $r''$  element  $a$  let its adjacent B be connected with another,  $b$ , to which the first is  $r''$ ; if these are the only elements in the  $r'$  group the members of either pair will be respectively  $r'$  and  $r''$  to the same number of elements. If the  $r'$  group have more members the other adjacent C of B cannot be connected with an  $r''$  element  $c'$ , which is  $r''$  to  $b$ ; for either it will be  $r''$  to  $a$ , in which case  $a$  will be between the element connected with B and that connected with its adjacent C; or it will be  $cr''$  to  $a$ , in which case it will itself be between the elements connected with B and its adjacent A. If, however, it be connected with an element  $c$  to which  $b$  is  $r''$ , and the  $r'$  group consist of but these three elements, adjacent elements therein will be connected with adjacents in the selection of  $r''$  elements, and in each of the pairs the members will be respectively  $r'$  and  $r''$  to the same number of others. In general, whatever the number of elements in the  $r'$  group, to effect the connexion

<sup>1</sup> According to G. Cantor ("Une contribution à la théorie des Ensembles," *Acta Mathematica*, iii., 1883, p. 314) it is only upon the supposition of such a correspondence, called continuous, between co-ordinates and the elements of the manifold which are determined by them that a continuum of  $n$  dimensions can be defined, as is commonly done, as one whose elements are determined by  $n$  co-ordinates. In the absence of this assumption any number of co-ordinates would suffice for the determination of the elements of a manifold of any number of dimensions.

In defining what he names a well-ordered manifold (*Ensemble Système*) Cantor makes use of conceptions akin to those of the text. ("Fondements d'une théorie générale des Ensembles," *Acta Mathematica*, iii., 1883, p. 393.) "By a well-ordered manifold is to be understood any well-defined [determinate] manifold in which the elements are united to each other by a given and determinate succession, according to which there is a first element of the manifold; every element (provided it is not the last in the succession) is immediately followed by another determinate one, and to every arbitrary system of elements, finite or infinite, corresponds a determinate element which follows them immediately in the succession (provided that in the manifold there are elements which follow all the elements of the partial system under consideration)." This conception of a well-ordered manifold appears to him (p. 395) fundamental to the whole theory of manifolds. ". . . Every well-defined manifold can always be put into the form of a well-ordered manifold."

of adjacent elements therein with adjacent elements in the  $r''$  selection, the relation  $r''$  must be continuously applied; in which case in each pair the members will be respectively  $r'$  and  $r''$  to the same number of elements. If the adjacent to the  $r'$  extreme A be connected with an element to which a is  $cr''$ , the process must be likewise continued by the use of this relation, and the members of any given pair will be respectively  $r'$  and  $cr''$  to the same number of elements.

The passage from any one element in a one-dimensional group to another by transitions of adjacency involves the connexion in some way of the former element with an earlier and the latter with a later instant, and adjacent elements with adjacent instants. There is therefore but one *way* in which this is possible; that is to say, the element in the group which is in the relation of the terminus to the starting-point to  $n$  others must always be connected with that instant which is later than  $n$  of those whose identification with the elements of the group is involved in the process.

## V.—DISCUSSIONS.

DR. HILLEBRAND'S SYLLOGISTIC SCHEME.

By C. L. FRANKLIN.

Miss Jones says, in reviewing Dr. Hillebrand's pamphlet on the syllogism (*MIND*, N.S., vol. i. p. 281) :—

" What is really novel in this syllogistic scheme is the exclusion of any syllogism with universal premisses and particular conclusion; and the substitution for the old *Dictum de omni et nullo* of the Laws of Contradiction and Excluded Middle, and of the two rules of Immediate Inference already referred to above".

She is certainly in the right in implying that nothing else is novel in this scheme, but she is wrong in saying that there is anything novel in either of the two points mentioned. As regards the first one, every logician who has considered that the proposition "some *a*'s are *b*'s (and there are *a*'s)" can only be logically denied by "no *a*'s are *b*'s (or else there are not any *a*'s)," has always seen at once that universal premisses (which make no affirmations concerning existence of terms) can never give ground for particular conclusions (which do make such affirmations), except with the aid of a separate statement that the terms in question do exist.<sup>1</sup>

Mr. McColl, to whom, in the first instance, this improvement in the doctrine of the proposition is due, explicitly points out this first consequence of it (*MIND*, No. 17), and all his followers have done the same. I have already said in *MIND* that I think it unfortunate that Mr. McColl's valuable work in Logic should have met with almost complete neglect in England, and I must

<sup>1</sup> Nothing, of course, is now illogical that was ever logical before. It is merely a question of what *convention* in regard to the existence of terms we adopt before we admit the warm-blooded sentences of real life into the iron moulds of logical manipulation. With the old convention (which was never explicitly stated), subalternation ran thus :—

"No *x*'s are *y*'s (and we hereby mean to imply that there are *x*'s, whatever *x* may be),  
∴ Some *x*'s are non-*y*'s".

With the new convention, the requirement is simply that if it is known that there are *x*'s (as it is known, of course, in by far the greater number of the sentences that it interests us to form) that fact must be expressly stated. The argument then is :—

"No *x*'s are *y*'s,  
There are *x*'s,  
∴ There are *x*'s which are non-*y*'s".

now protest against a self-evident remark of his being set down as novel when it is brought forth as such by a German who has read no English logician later than Jevons.

The reduction of the syllogism to a particular case of the principles of "Under-statement"<sup>1</sup> and of the Laws of Thought, I am obliged to claim for myself. I get the syllogism as a particular case of a more general argument, instead of deducing it from a more special argument, as Dr. Hillebrand does.

The more general argument is this:—

$$\left. \begin{array}{l} \text{No A is B} \\ \text{No C is D} \\ \text{No AC is either } \bar{B} \text{ or D} \end{array} \right\} = \left\{ \begin{array}{l} \bar{A}\bar{V}B \\ \bar{C}\bar{V}D \\ \bar{A}\bar{C}\bar{V}\bar{B} + D \end{array} \right.$$

No bankers have souls.

No poets have bodies.

No bankers who are poets have either souls or bodies.

This argument upon analysis is found to consist of (1) saying in one sentence what has been said in two, and (2) dropping part of what has been said. It becomes a syllogism in the particular case when B and D are contradictory terms:—

$$\left. \begin{array}{l} \text{No A is B} \\ \text{No C is } \bar{B} \\ \text{A which is C (since} \\ \text{it is neither B nor} \\ \text{non-B) is not any-} \\ \text{thing.} \end{array} \right\} = \left\{ \begin{array}{l} \bar{A}\bar{V}B \\ \bar{C}V\bar{B} \\ \bar{A}\bar{C}\bar{V}\bar{B} + \bar{B} \\ \text{or, } AC\bar{V}1 \end{array} \right.$$

No bankers have souls.

No poets are without souls.

∴ There are no bankers who are poets.

And the universal particular syllogism can be treated in a similar way.

But instead of stopping with this simplification of the syllogism, I go farther, and reduce these two forms to *one single typical form*, the standard form for every possible syllogism, which is, indeed, no longer exactly a syllogism in the strict meaning of the term, but which is an INCONSISTENCY equivalent to the syllogism. Either of the above syllogisms is correctly stated by saying that "if the premisses are true it is impossible that the conclusion should be false, or it is impossible that the contradictory of the conclusion should be true"; or thus: "it is impossible that the

<sup>1</sup> Under this name I include all cases of the legitimate adding or dropping of terms; as, for instance, when we infer from "all men are mortal" that "all strong men are mortal," and that "all men are either mortal or else become translated"; or from "both nuts and raisins are edible fruits" that "nuts are fruits," or that "raisins are edible".

premises and the contradictory of the conclusion should be all of them at once true"; or, "certain three propositions are mutually inconsistent". But no sooner has this been done for *both* the above syllogisms than it appears (since the order in which propositions are stated is immaterial) they reduce to *one and the same form of Inconsistency*. This Inconsistency is (if we write a subscript *o* for "no is," and a subscript *u* for "some is")

$$(1) (xy)_o (z\bar{y})_o (xz)_u = 0; \text{ that is :—}$$

"No *x* is *y*, no *z* is non-*y*, and some *x* is *z* are mutually inconsistent propositions".

This one Inconsistency is the same argument as either of these two syllogisms :—

$$(2) \begin{array}{l} \text{No } x \text{ is } y \text{ and on } z \text{ is non-}y \\ \text{imply that no } x \text{ is } z \end{array} \quad | \quad \begin{array}{l} \text{No } x \text{ is } y \text{ and some } x \text{ is } z \\ \text{imply that some } z \text{ is non-}y. \end{array}$$

This Inconsistency, far from being an unnatural form of argument, is the *one most natural form* when the argument is carried on as a conversation or a discussion (subject, of course, to the modification that we prefer to avoid the use of too many negative sentences).<sup>1</sup> So natural is it, indeed, that we have an abbreviated form of speech for it, by which we are able to give the whole force of the phrase "are mutually inconsistent propositions" by means of the simple word *but*. Thus :—

"No students are voters".

"But some students are citizens, and all citizens are voters [or, no citizens are not voters]."

The implication here is that the first speaker must be prepared to upset one of these two last propositions, or else to admit that his own statement is false,—that the three propositions, in other words, are together incompatible; and all this is expressed by the single word *but*, together with the proper intonation,—a form of speech as concise as the *therefore* of the syllogism.

That the Inconsistency, as a form of argument, is not of late psycho-genetic development, I have proof in the fact that I have heard it used by a child of four, and in this way :—

"Nobody eats soup with a fork, Helen".

"But I do, and I am somebody!"

The advantage of adopting the Inconsistency as the typical form of argument, to which every other is to be reduced in order

<sup>1</sup> Many worse theses have been maintained than that argument had its origin in this way. Our savage ancestors made statements, no doubt, without supporting them by reasons; and it was an opponent who refused to accept a simple statement as true, who first brought up considerations in rebuttal, and pointed out that they were inconsistent with the proposed affirmation.

to test its validity in the most expeditious manner possible, is that the *rules* which it requires one to remember are of extreme brevity and simplicity. They are these:—

*I. Express every universal proposition negatively, and every particular proposition affirmatively.*

*II. Take the contradictory of the conclusion (if the original argument was a syllogism).*

*III. The argument must now consist of two universal propositions, and one particular proposition; and the necessary and sufficient condition for validity (as appears from (I)) is that a term common to two universal propositions must have unlike signs, and a term common to a universal and particular proposition must have like signs.*

This is all. There are no separate rules for the cases of the syllogism being particular or universal; nor for the cases of terms being in the subject or the predicate,—subject and predicate play exactly similar rôles when all sentences begin with “no” or “some”.

Dr. Hillebrand's reduction of the syllogism to the two forms (2) is not new, and it has nothing like the importance that he claims for it. Either of these forms is a syllogism, but it has absolutely no greater claim to be considered the syllogism of its class than any other of the valid forms. It may be the best, the simplest, the easiest to feel the force of, and it certainly is the easiest to test the validity of,—a matter, of course, of crucial importance from the practical point of view. But to suppose that it is capable of throwing any light whatever upon either the philosophy or the psychology of a syllogism which is stated in any other of the commonly recognised forms, is nonsense.

## VI.—CRITICAL NOTICES.

*Text-book of Psychology.* By WILLIAM JAMES, Professor of Psychology in Harvard University. London: Macmillan & Co., 1890. Pp. xiv., 478.

We have here an abridgment of the author's *Principles of Psychology*, from which he believes that he has omitted "all the polemical and historical matter, all the metaphysical discussion and purely speculative passages," as well as "all the impertinences, of the larger work". This text-book the writer intended for class-room use, but it is a question whether it will not be of more service to the advanced psychologist anxious to have an authentic summary of the positive doctrines of a new master in the science, but deterred, and perhaps distracted, by the extreme discursiveness of the original volumes.

Taken as a whole, it does not seem very well adapted to serve the ordinary student as his *text-book*, though it will be invaluable to one who has made sure of his ground-work elsewhere. Prof. James's expositions of many special topics are admirable. For freshness and lucidity of statement, charm of style and felicity of illustration, it would be easy to find here a dozen long passages that might be cited alongside of classic pieces from the pages of Berkeley and Hume. In the way of descriptive or concrete analysis, nothing has ever been done surpassing, for example, the chapters on the "Stream of Consciousness" and on the Will. The author's successes in this direction are not due merely to great literary gifts: he has a still rarer qualification. In a department of knowledge, where it is so easy to read what has been written, and so hard to observe anew fairly and thoroughly, Prof. James is a seer, single-eyed, and full of light. Unfettered by tradition, and no system-monger, his one aim is from a definite standpoint to tell us what he sees, and to see all he can. Of necessity, almost, in such a case, along with vivid and definite *aperçus* we have gaps and some failure as regards systematic connexion; all which is openly acknowledged by the witness himself so far as he is aware of it. His eagerness to see and to find utterance for what he sees seems to have led to a certain impatience of the trammels of technical nomenclature and terminology. Thus most students, I fear, would find it very difficult to gather from this text-book the precise connotation of terms like Attention, Thought, Feeling, Intellect, Object, Identity, Interest; or to determine the relations of Conception, Imagination, and Perception, as these are defined. Again, though the book purports to be a conspectus of the principles of psychology, the student will have some trouble in ascertaining what these principles are, and may be comforted on reaching the last page to

learn that after all there are no principles, that psychology, in the author's opinion, is but "a string of raw facts; a little classification and generalisation on the mere descriptive level; a strong prejudice that we *have* states of mind, and that our brains condition them: but not a single law in the sense in which physics shows us laws, not a single proposition from which any consequence can causally be deduced".

From the preface one may gather that the order of exposition followed has been condemned by previous critics as unsystematic. And I fear the charge is just; although fully agreeing with the author "that we really gain a more living understanding of the mind by keeping our attention as long as possible upon our entire conscious states as they are concretely given to us, than by the *post mortem* study of their comminuted 'elements'". But on the one hand he seems to have maintained this analytic attitude far too long, and on the other he has not at the outset been sufficiently thorough with it. Nine-tenths of the psychological treatises in vogue—and they are a bewildering multitude—after a most jejune and beggarly pretence at the analysis of mind in the concrete, as the reader knows it, plunge at once into what they are pleased to call their scientific exposition. The notorious result is that the whole subject is turned topsy-turvy; an utterly false conception is given of the nature of sensations and ideas; and the essential unity and continuity of conscious life is regarded as something mysteriously superinduced upon its elements. But is it not passing strange that a teacher, saved by his own scientific independence and uprightness from this blunder, should yet have "obeyed custom" so far as, after a brief introduction of barely seven pages, to occupy the first six chapters exclusively with sensations, "although by no means persuaded that such order intrinsically is the best"! In two other points still the author does not seem to have been true to his method. If we are to start from our entire conscious states as they are concretely given to us, we ought not to have to wait till the last quarter of the book (ch. xxiii.) for an exposition of the active side of consciousness;<sup>1</sup> nor ought we to be pestered at every turn with physiological "impertinences" which assuredly are no part of our "conscious states as they are concretely given to us". However, this raises other issues that we must for the present defer. If we are to take the author strictly at his word, the book ought to begin with ch. xi., entitled "The Stream of Consciousness". In this and the ten following chapters (xii.-xxi.) he sticks to his method, apologising in the preface because the chapter on "Reasoning" (xxii.) is out of place: it ought to have followed that on the "Self" (ch. xii.). Were this change made, the entire department of cognition would be disposed of analytically. But here the author seems to me to ride

<sup>1</sup> The fact is, however, emphatically noted in a brief paragraph on p. 5.

his hobby to death. To treat of reasoning before association, of imagination before perception, is to ignore the capital fact that mind develops and develops according to a certain necessary sequence. To do this, and then to say that psychology has not a "single proposition from which any consequence can causally be deduced," is a trifle perverse. By just so much as development is a light-bringing conception in the whole treatment of life, by so much is a synthetic exposition helpful in psychology. In fact, Prof. James's argument recoils upon himself: so far as life and growth are one, *his* is "the post mortem study," and the genetic method it is that sets the living mind before us. In avoiding one extreme he has fallen into the opposite, and most of what incoherence and incompleteness there is in his work might be set down as the consequence. A general analysis sufficient to ascertain the broad features, and to secure the more fundamental generalisations, followed by an exposition in synthetic order, in which the more detailed analyses might have been interpolated, would have been not only more logical, but preferable also in respect of what the author calls "pedagogic order"—a truism, indeed, that all pedagogists, with one consent, affirm. The facts denoted by such terms as Retentiveness, Assimilation, Habit, and their bearing on Memory, Association, and Perception, for example, would have been clearer on this plan, and the important topic of Language and Thought would not have been disposed of by two or three casual references at long intervals.

The most imposing omission is that of the department of Feeling or *Gemüth*, imposing not only for its extent but still more because it is deliberate. As regards 'scientific psychologies' of the emotions he urges with great vigour that their "pretences to accuracy [are] a sham. . . . They give one nowhere a central point of view, or a deductive generative principle; they distinguish and refine and specify *in infinitum* without ever getting on to another logical level" (p. 375). This is perhaps in the main true. But the author's own "theory" does very much less, I fear, to ensure deeper insight and greater simplification than he himself supposes. What he calls "the vital point of the whole theory" consists in exposing the inaccuracy of the phrase "bodily expression of an emotion"; a phrase which is liable to mislead us into fancying that emotion may be antecedent to, or independent of, expression, as thought, for example, may be. My fear or anger may chance to be expressive to another, but they are, of necessity, *impresive* to me: "a disembodied human emotion is a sheer nonentity". In so far as I have a certain emotion, in so far I have "the feelings of its bodily symptoms". This is true, not to say trite; but how do these symptoms arise? The theory at this point becomes perplexing and perplexed. From certain of its statements we gather an answer in this wise: "A purely bodily cause produces the feeling of a bodily state, and the emotion is nothing but this: in so far as the bodily cause is set up, be the means what they may,

in so far the emotion is present. Moral : Go through the *outward movements* of the dispositions you prefer to cultivate and the reward of persistency will infallibly come" (p. 383). Are you unbelieving? Go to a lunatic asylum. "The best proof that the immediate cause of emotion is a physical effect on the nerves is furnished by those pathological cases in which the emotion is objectless" (p. 377). But we also get an answer of a different tenor : "An emotion is a tendency to feel characteristically when in presence of a certain object in the environment. . . . Every object that excites an instinct excites an emotion as well. The only distinction one may draw is that the reaction called emotional terminates in the subject's own body, whilst the reaction called instinctive is apt to go farther and enter into practical relations with the exciting object" (p. 373). Instead of keeping to superficial inquiries as to the proper genera of emotion and the expression by which each is characterised "the questions now are *causal* : 'Just what changes does this object and what changes does that object excite?' and : 'How come they to excite these particular changes and not others?' . . . The moment an emotion is causally accounted for, as the arousal by an object of a lot of reflex acts which are forthwith felt, we immediately see why there is no limit to the number of possible different emotions which may exist" (p. 381). Now though there is presumably no question that the latter is the more complete account, the author confuses both himself and his readers by an undue insistence upon the former. If the reflex reaction is due to the excitement of an object, then an objectless emotion is nonsense; and if it is true to say the object may be present without the emotion, *viz.*, when it arouses no reflex acts, it is equally true to say the bodily changes may be felt without emotion, *viz.*, when they are movements, but not reflexes, aroused by an object. No doubt the physical effect on the nerves is not *precisely* the same when the movement is not an emotional reaction, neither is the object for the percipient precisely the same when it excites no emotion. Instead of so exhibiting the facts he refers to, when on the former tack, as to lead his readers and himself to take the part for the whole, the author would have done better to institute the careful scrutiny his own definition demands and ascertain whether the lunatic's emotions are really "objectless" and not merely groundless. He might have considered too whether whistling to keep up courage and speaking in a major key to subdue melancholy, when effective, are not so partly because they are antithetic to the emotional reaction of fear and gloom; and still more, because, owing to their association with objects of an opposite class, they help to extrude fearful and dismal thoughts. He seems, in fact, to have forgotten his own rule about attending "to entire conscious states as much as possible". As to the simplification promised, what does it amount to? Briefly this: As reflexes vary indefinitely and the number of objects that call them forth are

innumerable, there is no limit to the number of different emotions which may exist: they may be distinguished as *coarser* or *subtler* according to the relative strength of their bodily reverberations, but further than this it does not seem worth while to go. As well almost might a zoologist know no distinction save that of big or little, animal or animalcule. Surely the over-refinement of the Herbartians is better than this! Even if the exciting objects are innumerable they at least fall into the two classes of pleasurable and painful. And as to the "reflexes"—spite of their variety—is there no light in the Kantian distinction of sthenic and asthenic or in that of appetitive and aversive? Without some better insight into their characteristics than that afforded by their relative strength, the inquiry the author proposes: "How comes this object to excite this lot of reflex acts, that object to excite another lot?" will never get very deep, however "causal" they may be.

But Prof. James deliberately rejects the world-old belief that feeling (*i.e.*, pleasure or pain) is the spring of action. It is, he tells the student, "a great mistake," due to "a premature philosophy," and "a curiously narrow teleological superstition". He continues thus: "Important as is the influence of pleasures and pains upon our movements, they are far from being our only stimuli. With the manifestations of instinct and emotional expression, for example, they have absolutely nothing to do. Who smiles for the pleasure of the smiling, or frowns for the pleasure of the frown? . . . In all these cases the movements are discharged fatally by the *vis a tergo* which the stimulus exerts upon a nervous system framed to respond in just that way. . . . The *impulsive quality* of mental states is an attribute behind which we cannot go. Some states of mind have more of it than others, some have it in this direction, and some in that. Feelings of pleasure and pain have it, and perceptions and imaginations of fact have it, but neither have it exclusively or peculiarly. It is of the essence of all consciousness (or of the neural process which underlies it) to instigate movements of some sort. If the thought of pleasure can impel to action, surely other thoughts may" (pp. 445 f.). Now many hoary superstitions have been worsted before now, and the man who did them battle generally began with the world against him. Prof. James may be right: there is, perhaps, no question that runs us further into the dim recesses of metaphysics than this concerning the connexion of feeling and movement, and we must not be dogmatic. But, at least, we may expect this psychological Athanasius to take some pains to understand our superstition, and also to give careful heed to his own terms and standpoint: yet it would be hard to find a controversial passage with a more cavalier air of *sans souci* about it than this. To begin with: he calmly and candidly regrets in his preface "to have been unable to supply a chapter on pleasure and pain," and the reader seems left to guess in what sense these very ambiguous

terms are used. Again, between movement and action there is a wide difference: the mechanism of movement may be framed and adjusted to any extent without detriment to the statement that action is due to feeling. And the question is not whether normally a man smiles for the pleasure of smiling, or frowns for the pleasure of the frown, but whether he smiles except when pleased, or frowns except when displeased. It is nothing to the point to say that the movements of the great zygomatic muscles in the one case, or of the corrugators in the other, are predetermined in the nervous system: the question is whether the diffused discharge is ever unaccompanied with feeling. No doubt, we do many things in "the daily routine of life, our dressing and undressing," and the like, "without reference to pleasure or pain"; but just as far as these secondarily automatic performances are independent of feeling, so far are they independent of consciousness, and leave us free to act and feel in other directions. The habits of to-day were the acts of yesterday, and it is just their fixity that makes higher life possible. To draw a fundamental distinction between the two is "no illusory simplification," as Prof. James hints: rather to confound them is to miss the meaning of mental development altogether. It may well be that "the impulsive quality of mental states is an attribute behind which we cannot go." But what does impulse mean? Upon this word the whole issue turns, and yet no attempt is made to define it. If the student look elsewhere for a definition, he will come upon bewildering variety enough:<sup>1</sup> still, I believe he will find that, as a psychological term, impulse has invariably included feeling as part of its connotation. Back of it, in this sense, we certainly cannot go. Still more hopeless, if possible, will be the student's attempt to attach any precise meaning to the statement that "it is of the essence of all consciousness to *instigate* movement of some sort," especially when he takes the parenthetic reference to neural processes into account. The author's carelessness becomes almost fatuous when he proceeds to clinch his argument with the remark that, "if the thought of pleasure can impel to action, surely other thoughts may." But when does the thought of pleasure impel to action except when it first occasions feeling? Are we expected to identify feeling and thought of feeling, as well as to use thought and feeling interchangeably?

The licence the author allows himself in the use of fundamental terms involves him sometimes in what might be fairly called logical barbarisms. Take the following: "Sensations are cognitive. . . . The sensations of the eye are aware of the colours of things; those of the ear are acquainted with their sounds" (p.

<sup>1</sup> Perhaps I might be allowed to refer any reader interested in this point to one of Volkmann's excellent notes, *Lehrbuch der Psychologie*, Bd. ii. § 146, Anmkg. 1.

13). And, again : "The thoughts themselves are the thinkers" which, we are told, must be "the final word" of psychology as a science concerning the knowing self or subject (p. 216). If I were to say to a child : It is the spoon that eats the porridge, and the fork that eats the meat, he would be puzzled ; and still more puzzled if I were to add : But, of course, it's you that eat the breakfast. If any one were to say : The poems themselves are the poet, or the laws themselves are the legislators, we should confidently declare such statements nonsensical. In what respect is this "final word : the thoughts themselves are the thinkers" formally different ? And yet I am bound to say that the chapter on the "Self," in which both these logical solecisms recur again and again, is the most successful attempt I have seen to resolve the knower into the known. It reminds one of the feats of mathematicians with their absurd  $\sqrt{(-1)}$  : what if the way to deeper truth in psychology be through absurdity ? "The full truth about states of mind cannot be known," says Prof. James, "until both Theory of Knowledge and Rational Psychology have said their say." Granted : but have they said nothing so far, and where does their jurisdiction begin ? Is empirical psychology to end in incongruities and contradictions which philosophy is hereafter to set right ? For my own part, I believe there is more uniformity in the advance of knowledge than Prof. James's view implies. There exists already a fair amount of philosophical prolegomena to psychology, and it is really disheartening to find a writer with such keen philosophic interest sweeping it all aside to found instead on the shifting sands of physiological psychology. No science can afford to be slovenly about its fundamental conceptions, and, though the difficulty of precisely defining standpoint and data is probably greater in psychology than in any other science whatever, yet the importance of exactness is nowhere so vital. Prof. James is perfectly open about the line he takes, and, so far, deserves all praise. At the very outset he says : "Psychology at present is on the materialistic tack, and ought, in the interests of ultimate success, to be allowed full headway even by those who are certain she will never fetch the port without putting down the helm once more" (p. 7). But what reason is there to suppose that conceptions, into which, from the nature of the case, physical ideas cannot enter, will be clearer then than now ? It is fearfully hard to define what we mean by Subject, Object, Presentation, Feeling, Judgment, Belief, Memory, Volition ; but till these and cognate conceptions are clear and distinct, psychology must be at a standstill, let psychophysics advance as much as it may. The true position of affairs, indeed, at the present time seems rather to be that psychology proper is stranded altogether, while psychophysics carries her flag. And yet it is hardly true to say this either, when one thinks of the work of men like Brentano, Meinong, Höffding, and some others. But in his haste to be *en*

*rappoport* with neurology, Prof. James will not waste a minute on fixing conceptions. On his second page he gives the following account of the data of psychology—certainly the loosest possible : “These data are : 1. *Thoughts and feelings*, or whatever other names transitory states of consciousness may be known by. 2. *Knowledge*, by these states of consciousness, of other things.” He then (p. 7) proceeds to divide psychology in correspondence with the three main divisions of the nervous system : “(1) the fibres which carry currents in ; (2) the organs of central redirection of them ; and (3) the fibres which carry them out” ! Happily this does not hinder him from achieving the distinction that, I think, he deserves of being second to none in psychological observation and analysis, but it has prevented him, I fear, from becoming an effective expositor of the principles of psychology.

On one point, however, our author is not with the crowd : he avows himself a believer in ‘mediumships’ or ‘possessions,’ maintains that the work of the Society for Psychical Research meets “one of the greatest needs of psychology,” and hopes that his “personal confession may possibly draw a reader or two into a field which the *soi-disant* ‘scientist’ usually refuses to explore” (p. 214). Let us not sneer at this frank avowal, nor grudge the new inquirers it may incite. Meanwhile, it must strike the impartial spectator as a little humorous that, on the one hand, these people have arrogated to themselves a title under which every psychological inquirer *might* be enrolled, and on the other, stigmatise as *soi-disant* ‘scientists’—a name ugly enough for anything—the great body of psychologists, who, in fact, think proper not to join their ranks. Since we have dropped to trifles, it may be worth while to animadvert on a certain unacademic and scarcely decorous vein of language and illustration that crops up here and there : as when, *e.g.*, introspective psychology is advised “to throw up the sponge”; or the reader is casually reminded that “this very morning he has brushed, used, and picked his teeth”; or when, to illustrate the explosive will, an Italian *bravuccio* is described as not only singing the songs, and making the speeches, &c., but as carrying out the practical jokes, kissing the girls, and fighting the men; or when, as an instance of the code of honour of fashionable society, and *apropos* of the social Me, we read : “You must not lie in general, but you may lie as much as you please if asked about your relations with a lady”. But the oddest of all, and this, I am sure, is purely American, is the picture in the chapter on “Habit” of the man of shoddy, who, “no matter how much money there be in his pocket,” can’t “even learn to *dress* like a gentleman-born. The merchants offer their wares as eagerly to him as to the veriest ‘swell,’ but he simply cannot buy the right things. An invisible law, as strong as gravitation, keeps him within his orbit, arrayed this year as he was the last ; and how his better-clad acquaintances contrive to get the things they wear will be for him a mystery

till his dying day." How dreadful! But why so much detail? A severe critic, I am afraid, would say that Mr. James's facile pencil often runs away with him. Even when, as for the most part is the case, there is nothing to find fault with on the score of taste, there is not infrequently a needless but picturesque elaboration of stage scenery.

JAMES WARD.

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*Early Greek Philosophy.* By JOHN BURNET, M.A., Fellow of Merton College, Oxford. London and Edinburgh: Adam and Charles Black, 1892. Pp. 376.

Since the publication of Diels's *Doxographi Græci* in 1879 so much advance has been made in the study of Early Greek Philosophy that it would have been a real service to English students merely to record the results of German scholarship in this department. But the present book is far from being only a record of the labours of others. It is original and judicious, as well as learned and scholarly, and constitutes a solid contribution of permanent value to the history of Philosophy.

After an introduction of thirty pages, dealing with the general character of early Greek speculation, and maintaining (with Zeller) the essential originality of Greek philosophy properly so called, the author proceeds to review the different schools of pre-sophistic philosophy, devoting to each philosopher a separate discussion, which embraces in each case a literal translation of the extant fragments.

Perhaps the most noticeable point in the Introduction is the explanation of the title *περὶ φύσεως* so often given to early philosophical writings. Mr. Burnet warns us against taking it as equivalent to *De rerum natura* (as it was understood by later writers): it means (according to him) "concerning the primary substance". This explanation suits well with the character of these early writings, and the word *φύσις* is certainly used in this sense by Plato and Aristotle in speaking of the *ἀρχή* sought by early philosophers: but it would have been well if the author had established his point by a fuller discussion of the word *φύσις*. One of the earliest meanings of this word is certainly 'birth,' and while it does not seem improbable that *περὶ φύσεως* may have originally meant simply 'on birth,' and been used as a title for works dealing (in large measure) with the birth of the world, it is perhaps more likely that the primary element was really called by them *φύσις* as the thing which (by its combinations, &c.) gives birth to all else. Such a use of the word, though rare, is not unexampled.

In dealing with the theories of the individual philosophers, Mr. Burnet's tendency is to lay stress chiefly upon the doctrines contained in the extant fragments. Next to the evidence of the

fragments, he places that of Plato, where it is available. "Aristotle's statements," he says, "about early philosophers are far less historical than Plato's. Not that he failed to understand the facts, but he nearly always discusses them from the point of view of his own system." To the evidence of Theophrastus, as preserved by the Doxographers, he generally assigns a high value: and in point of fact—as Plato seldom helps us—Mr. Burnet's views on the doctrines of early Greek philosophers are almost entirely derived from a combination of their fragments with the doxographical material indirectly derived from the "Opinions of Theophrastus".

This mode or procedure is fair and legitimate, so long as it is recognised that the results obtained by it are partial and incomplete. In the first place, we have but the merest fragments preserved to us of the writings of pre-sophistic philosophy in Greece, and these are very imperfectly supplemented by the Doxographers: our statement, therefore, of the doctrines, e.g., of Heraclitus and Parmenides, will be very far from exhaustive, if we reject or ignore extraneous evidence, even when it comes from writers who have a system of their own to uphold. In the second place, no writer on ancient philosophy—least of all Mr. Burnet—can be content with a bare statement of doctrines. It is impossible not to theorise as to the interdependence and development not only of these doctrines, but also of the different philosophers, and even of the different schools. Whether our theories, based as they are on partial data, are likely to be historically more correct than those of Aristotle and the Stoics, who may be supposed to have had before them, in most cases, the complete works of the early philosophers, may perhaps be doubted, even after we have made every allowance for the tendency of ancient philosophers to find their own views in their predecessors. It is at least certain that in theorising ourselves we cannot afford to ignore the theories of men who may have had less judgment and impartiality, but certainly had more knowledge than ourselves.

The first chapter of Mr. Burnet's work deals with the Milesian school, the most important representative of which was Anaximander. After discussing and partially rejecting each of the four conflicting views as to the nature of Anaximander's *ἀπειρον*, Mr. Burnet finally decides for the view that *ἀπειρον* denotes body, spatially infinite, out of which "our world once emerged by the 'separating out' of the opposites, moist and dry, warm and cold". The view that *ἀπειρον* means "qualitatively indeterminate" is (we think) successfully refuted by the argument that Anaximenes, the successor of Anaximander, retained the *φύσις* *ἀπειρον*, but identified it with the (qualitatively determinate) "Air" or "Mist". But we fail to see why Mr. Burnet should (as we think) weaken his argument on p. 53 by having recourse to Lütze's correction in order to escape having to admit that

Aristotle spoke of the *ἀτερπόν* of Anaximander as a "mixture". As it is by the process of separating out certain opposites from the *ἀτερπόν* that the world (according to Anaximander) is called into being, Aristotle might fairly have represented the *ἀτερπόν* as a "mixture" of these opposites, which (as he would have said) are present δινάμει therein. In point of fact (as Mr. Burnet recognises on p. 73), when the world is absorbed again in the Boundless, the fire which has burned up the whole of the cold element is "simply the 'mixture,' if we choose to call it so, of the hot and cold; that is, it will be the same as the Boundless which surrounds it".

On the "innumerable worlds" ascribed to Anaximander, Mr. Burnet argues with much force for the view that they are at once coexistent and perishable.

Mr. Burnet's exposition of Heraclitus' philosophy forms, perhaps, the most interesting and original chapter in the whole of his book, but it is not likely to command assent with those who have much regard for the testimony of the Stoics, or, for that matter, even of Aristotle.

The foundation of the author's explanation of Heraclitus' theory is the well-known passage in Plato's *Sophistes* (242 d); where Plato contrasts the Ionian and Sicilian Muses in respect of their treatment of the One and the Many. "For," says Plato, "according to the severer Muses, the one 'in its division is always being brought together,' but the softer Muses said that the All was alternately one and at peace through Aphrodite, and many and at war because of what they called strife." In agreement with this passage Mr. Burnet regards the discovery of Heraclitus as the fact that "opposites are one, that they are but the two faces of the fire which is the thought of the world". Heraclitus' primary substance was real fire, and why he fixed upon it is thus explained: In combustion "the quantity of fire in a flame burning steadily appears to remain the same, the flame seems to be what we call a 'thing'. And yet the substance of it is continually changing. It is always passing away in smoke, and its place is always being taken by fresh matter from the fuel that feeds it. This is just what we want. If we regard the world as an 'ever-living fire' (fr. 20), we can understand how it is always becoming all things, while all things are always returning to it." The "way up and down" is thus expounded: "At any given moment, half of the sea is taking the downward path, and has just been fiery stormcloud"—thus is πρηστήρ for the first time ingeniously explained—"while half of it is going up, and has just been earth. In proportion as the sea is increased by rain, water passes into earth; in proportion as the sea is diminished by evaporation, it is fed by the earth. Lastly, the ignition of the bright vapour from the sea in the bowl of the sun completes the circle of the 'upward and downward path'. Its beginning and its end are the same, namely, fire." What is chiefly

noteworthy in this interpretation of Heraclitus is the strenuous way in which Mr. Burnet develops it to its logical conclusion. He allows "periodical encroachments of water upon fire, and of fire upon water, which produce the alternation of night and day, summer and winter," but as the exchange is to be just, in the long run "fire will take as much, and no more, than it gives". The interchange is always going on, and consequently the theory of a final conflagration could not have been held by Heraclitus. Mr. Burnet even maintains that "the theory of a general conflagration is denied by Heraclitus in so many words". We cannot see that this is so, nor convince ourselves that Fragment 20 may not refer to the absorption of the (present) world in fire; as for Fragment 29, it may have reference to the daily path of the sun from East to West, and be connected with Fragment 30, concerning the limits of East and West. The extreme uncertainty as to the precise reference of these fragments makes it hazardous to build much on them, and we think Mr. Burnet is more persuasive when he rests his case on the testimony of Plato and on the irreconcilability of the usual view with the first principles of Heraclitus. We do not, however, feel certain that he successfully rebuts the testimony of Aristotle in the *De Cælo* (quoted on p. 165), and the systematic attribution to Heraclitus of the doctrine of *ἐκπίρωσις* by Stoic writers is hardly sufficiently explained by the tendency of post-Aristotelian writers to father their doctrines on their predecessors. In spite of this, we think that Mr. Burnet has made out a strong case in favour of his view, a corollary of which is that the Great Year is no longer to be regarded as the period between two universal conflagrations, but "as the time taken by the encroachment of fire and its subsequent retreat, the re-enactment on a larger scale of the alternation of day and night, summer and winter".

It should be noted that Mr. Burnet emphatically rejects the Stoic view of Heraclitus' *λόγος* as "reason," translating it simply as 'argument' or 'discourse'. We hope that in a second edition he will justify this interpretation at greater length, especially as it requires the far from probable substitution in Fragment 92 of *τοῦ φρονέειν* for *τοῦ λόγου*. It does not follow that because *λόγος* means 'reason' in Stoicism, it means something quite different in Heraclitus: the presumption is rather the other way, if we bear in mind the general influence of Heraclitus' teaching upon the later school.

Mr. Burnet's account of Parmenides is exceedingly clear and definite. "What *is*, is a finite, spherical, motionless corporeal plenum, and there is nothing beyond it. . . . What appears later as the elements of Empedokles, the so-called homeomeries of Anaxagoras and the atoms of Leukippus and Demokritos, is just the Parmenidean 'Being'. Parmenides is not, as some have said, 'the father of idealism'; on the contrary, all materialism depends upon his view of reality." It may, perhaps, be doubted

whether such a view of Parmenides sufficiently explains his undoubtedly influence on Plato and Plato's reverence for him, but Mr. Burnet is certainly right in maintaining that Parmenides' *ens* was material. For English readers the most interesting part of this chapter will be the discussion of Parmenides' 'Way of Opinion'. Mr. Burnet adopts the simple and captivating view that the 'Way of Opinion' is nothing but a summary of contemporary Pythagorean cosmology. It is beyond doubt that there are numerous elements of Pythagorean physics throughout the second part of the poem—enough, indeed, to justify such a view, if we could satisfy ourselves as to the motive of Parmenides in writing down so much which he held to be false. Mr. Burnet holds that Parmenides (as a dialectician) "finds it necessary to work out the opposite view for just the same reason that Plato found it necessary to write in dialogue"—in order to put us "in a position to criticise and refute the rival theory". Here, again, the stumbling-block is Aristotle, who expressly says (*Met.*, A 5·986<sup>b</sup>·31) that "Parmenides, being compelled to follow appearances, while assuming that reality, according to  $\lambda\circ\gamma\circ s$ , is one, assumes that, according to  $a\circ\sigma\theta\eta\circ s$ , it is more than one, and postulates that the causes and first-beginnings are two—hot and cold," &c. Even if we could get over this, it must still remain a grave difficulty in Mr. Burnet's view that no ancient writer so much as hints at such a theory of the 'Way of Opinion'. If Parmenides really intended, in the second part of his poem, to give an account of Pythagorean cosmology, in order that we might disbelieve it, he has been singularly successful in concealing his purpose.

In dealing with Empedocles, Mr. Burnet endeavours to show that Empedocles conceived of our present world as belonging not to the period when Love is acquiring supremacy (as is generally assumed), but to the age when Strife is waxing and Love waning. Empedocles himself tells us that a world arises both in the second and in the fourth of his four periods, and many of the cosmological fragments certainly seem to refer to the second period rather than to the fourth. When Strife enters into the Sphere, individual existence begins. The first living creatures to appear are trees and plants—in which, as Empedocles saw, the two sexes are united: when animal organisms begin to appear they are at first "'whole-natured forms' in which neither sex nor species are yet distinguished". These, as Mr. Burnet points out, are "just what we should expect at a time when Hate is only beginning to make its power felt": he might have compared the similar story as to our round ancestors in Plato's *Symposium*. There are, however, some fragments which describe Nature's early attempts at animal creation as resulting in dismembered organisms—'arms widowed of shoulders,' 'eyes without foreheads,' and so on. These Mr. Burnet refers to the fourth period, when Love is encroaching—holding that Empedocles really

describes "two evolutions of animal organisms which take exactly opposite courses, one belonging to the period of the world's history when Strife is prevailing more and more, the other to that when Love is making headway". This view is interesting and suggestive in view of such cosmological traditions as are embodied in the myth of Plato's *Politicus*, and we hope Mr. Burnet will establish it more fully: it is not on the face of it consistent with the doxographical tradition in the *Placita*, V. 19 (R. & P., 137).

Mr. Burnet's account of the Pythagoreans is by far the most intelligible that we remember to have read. It may be a shock to mathematicians to hear that the Pythagorean "points have magnitude, their lines breadth, and their surfaces thickness," but in no other way could the juxtaposition of points have made a line, or of lines a surface, or of surfaces a solid. The saying that "Things are numbers" is shown to mean "Things are made up of geometrical figures," since their numbers are wholly spatial, one being a point, two a line, three a plane, and four a solid. Such a view makes the Pythagorean system mainly a system of physics, and explains the large part which it plays in the physics of Plato's *Timaeus*.

Among other noteworthy discussions in this book we would refer to the chapter on Zeno, who is regarded chiefly as a strenuous opponent of the Pythagorean physics, and to the attempt to rehabilitate Melissus by showing that "not only was he the real systematiser of Eleaticism, but he was also able to see, before the pluralists saw it themselves, the only way in which the theory that things are a many could be consistently worked out".

We take leave of the work by expressing the hope that we shall see more works on Greek physical philosophy from the same pen.

J. ADAM.

*Einleitung in die Moralwissenschaft. Eine Kritik der Ethischen Grundbegriffe.* Von GEORG SIMMEL, Privat-docent an der Berliner Universität. Band I. Berlin: Verlag von Wilhelm Hertz (Bessersche Buchhandlung), 1892. Pp. viii., 467.

The general nature of the contents of this volume has been already indicated by Prof. Sidgwick;<sup>1</sup> and I may begin my critical notice of the book by expressing my entire concurrence with the characterisation of it which Prof. Sidgwick has given. It is, as he says, "acute, ingenious, subtle, suggestive, and almost uniformly interesting"; but at the same time it would certainly (Prof. Sidgwick says "perhaps") "be going too far" "to say that it is mature, luminous, well-arranged and convincing". The

lack of good arrangement is perhaps the most conspicuous defect. Indeed, the apparent absence of unity in the plan and continuity in the working of it out makes it difficult for a reviewer to give any precise account of the writer's point of view. All that I can pretend to do, in what follows, is to indicate what I conceive to be his general drift, so far as I can gather it from a study of the present work, and a comparison of it with other two books by the same author.<sup>1</sup>

We may say, on the whole, that there are two dominant schools of ethical thought at the present time, just as there were (at least in England) a generation ago. A generation ago the two schools were the intuitionist and the utilitarian—both founded on a statical conception of human nature. The two schools at present are both founded on the idea of development; but they regard this idea from opposite points of view. The one is metaphysical and teleological, attending mainly to the principles involved in the process of development and the end to which it is moving. The latter is historical and psychological, looking rather to the beginning of the process and treating it as an event in time. Mr. Simmel belongs very decidedly to the latter of these two schools. His work is thus akin to that of Mr. Spencer, Mr. Leslie Stephen, and Mr. S. Alexander—bearing perhaps most resemblance to the last of the three. His point of view is, however, distinguished from that of all these writers by its consistent and thorough-going atomism. He is thoroughly convinced that the explanation of anything is to be found by resolving it into its elementary constituents.<sup>2</sup> He has apparently no fear of losing in this way any "spiritual bond" by which the parts are united. His whole theory of Ethics depends on the acceptance of this point of view.

It follows that Ethics is not to be regarded from a teleological point of view, as a science of ideals or of an absolute end. This would be to introduce the "spiritual bond" which Mr. Simmel insists on omitting. Ethics, according to him, is a purely natural science, being a part at once of Psychology, of Sociology, and of History (p. iii.). It does not investigate what ought to happen, but only tries to find out what actually happens and what are the laws according to which it happens (*Geschichtsphilosophie*, p. 90). It is doubtful whether it ought to be regarded as a separate science at all (p. iv.). Probably in the long run it will not be so treated, but rather merged in Psychology, Sociology and History. It is, at any rate, not properly a normative science, a

<sup>1</sup> *Ueber sociale Differenzierung* and *Die Probleme der Geschichtsphilosophie*.

<sup>2</sup> See, e.g., *Probleme der Geschichtsphilosophie*, p. 39. "The only real things are the movements of the smallest parts and the laws which regulate them." Cf. *Sociale Differenzierung*, p. 11. "If we follow out individualism in a really consequent way, the only realities that remain are the indivisible atoms, and every composite thing must be regarded as only a reality of the second degree."

science that lays down laws to be obeyed, but a science that accepts certain ends given in the wills of individual human beings, and investigates the relations of these (p. 321). Consequently, the imperatives with which it is concerned are not, as Kant thought, categorical, but only hypothetical (p. 322). They depend simply on the empirical fact that certain ends are pursued by individual human wills.

The hypothetical "ought" (*Das Sollen*) with which Ethics is thus concerned is an ultimate, unanalysable, and undefinable element of consciousness (p. 8). It may, however, apparently be described and explained. It is a *feeling* (*Gefühl*, p. 7) that accompanies certain kinds of presentations, just as other kinds of presentations are accompanied by the feeling of reality. It is, however, also described as a *conception* (*Begriff*, p. 3), and as a mode of *thought* (*Denkmodus*, p. 9). Perhaps Mr. Simmel means that it is a conception accompanied by a peculiar kind of feeling. This conception or feeling is analogous (p. 3) to the conception or feeling of being, reality, or truth (all apparently used as synonymous). The conception or feeling of "ought," in fact, stands midway between being and not-being (p. 8), just as the conceptions or feelings of willing, hoping, being able, &c. (*das Wollen, das Hoffen, das Können*) do. We are consequently led to inquire what Mr. Simmel understands by being, reality, or truth, i.e., what is the metaphysical basis on which his Ethics rests.

Apparently Mr. Simmel starts by accepting (p. 33) Kant's idea of a *Ding an sich*, in spite of all the criticisms that have been passed upon this idea. He says, indeed, with regard to this *Ding an sich* that "we know nothing more about it than that we cannot know anything about it". Nevertheless, this unintelligible entity (or nonentity) is to be postulated. "Since," he says,<sup>1</sup> "the things themselves do not pass over into our faculty of presentation, it follows that agreement with these, truth of thought, is only a psychological condition of the latter, a colouring and a definite feeling of tension in consciousness." Truth is further defined in this way : "The majority of the coherent and consistent contents of consciousness we call truth" (p. 3). The minority, on the other hand, or those that do not cohere, we regard as illusion. This is the definition of truth for the individual. There is, however, also, what may be called *Wahrheit für die Gattung* (p. 151); and this is a deeper kind of truth than mere truth for the individual; so that we may even say broadly (p. 3) that "truth is the presentation for the race, error the merely individual presentation". These are the clearest statements that I have been able to find of Mr. Simmel's view on this matter. He says in another passage<sup>2</sup> that "the presentations and actions of the world in general (*der Allgemeinheit*) constitute the norm by

<sup>1</sup> *Geschichtsphilosophie*, p. 97.

<sup>2</sup> *Ueber sociale Differenzierung*, p. 88.

which we judge of correctness or error in the individual. We have in the end no other criterion of truth than the possibility of persuading every sufficiently cultivated individual of it." The ultimate criterion of truth, then, appears to be the judgment of a typical individual—*i.e.*, an individual who belongs to what Mr. Simmel elsewhere (p. 224) describes as the "compact majority". In short, the criterion is a refined form of the *consensus gentium*.

Now the conception or feeling of "ought," as we have already been informed, is analogous to that of reality or truth. Here also the explanation is to be found by reference to the social type, which supplies us with the norm for individual conduct (pp. 69 *sqq.*). Mr. Simmel remarks here that "the normal has a double sense: first, what is universal or generic; second, what ought to happen". He thinks that the connexion between the two meanings is to be found in the fact that what is normal for the race in the first sense is normal for the individual in the second sense (p. 69). In order to understand this more clearly, however, we must consider briefly what Mr. Simmel's view of society is.

It has been already stated that he is a thorough-going atomist. He carries out this point of view consistently in his treatment both of the individual consciousness and of the social unity. "The Self is nothing else than the sum-total of the present activities and presentations" (p. 148); or, if we use the term in a narrower sense, it is "the compact majority of our psychical contents" (p. 224). Accordingly, there is no real unity in our individual consciousness. Our consciousness is simply a collection of presentations on the one hand and desires on the other. Apparently Mr. Simmel draws no distinction between desires and will.<sup>1</sup> Will, I suppose, he would regard simply as the strongest desire at a given moment, or perhaps as the "compact majority" of our desires. For this reason he regards it as a tautological statement to say that any one pursues his own interest. It means simply that "he wills what he wills" (p. 135). Apparently he does not perceive that it means rather that he wills what he desires; and this is not a tautology if will and desire are not identical. Similarly, Mr. Simmel declares that "Egoism is an altogether empty general conception," because "a man is so little a single being, so many impulses, wants, ideas, fill him at every moment" (p. 134). He is simply the theatre where these meet and conflict. "We confessedly know absolutely nothing of the constitution of the so-called soul, but all that we can say about it resolves itself into the individual presentations which constitute its real content" (p. 134).

In like manner society is an aggregate, not a real unity. "Society is not a rounded whole, an absolute unity, any more

<sup>1</sup> See especially p. 148, where *Wille* and *Willensakt* (at any rate the former) are apparently employed with reference to desires.

than an individual human being is.”<sup>1</sup> “For purposes of knowledge one must not begin with the conception of society, and seek to deduce from the determinations of that the relations and reciprocal influences of its members; on the contrary, we must hold fast by the latter, and treat society as merely a name for the sum of the interactions of these among themselves, and as a name that is applicable to such an aggregate in proportion to the coherence of its parts.”<sup>2</sup>

If, then, the moral imperative is to be explained by reference to a social type, this must not be taken to mean that we derive our ideas of duty from the organic whole to which we belong. We must not look for our ethical ideal in the highest development of the social unity, any more than we are to look for it in the highest development of the individual personality. Both of these, we are taught, are empty conceptions. The individual, regarded on the active side, is a sum of impulses; society is a sum of interactions due to these impulses. The best result to aim at, from the individual point of view, is to have free course for a majority of these impulses. “Each individual act of will wins our approval when it represents and realises the greatest possible quantity of the impulses that are present in us. This is indeed an analytical and even an identical proposition, since the We, the approving personality, is nothing else than the sum-total of the present activities and presentations.” The aim of the individual, then, is to maximise the impulses that reach their ends. And since this is the end of each individual, the collective end will be the maximisation of the collective will. Accordingly we may state the moral imperative in this way: “Thou shalt will that, the fulfilment of which is at the same time the fulfilment of the largest part of all existing impulses” (p. 139). This principle represents “the positive application and also the fundamental basis of the saying: *Volenti non fit injuria*”. “A deed that was contrary to nobody’s will could not be unjust” (p. 140). And in proportion as it is conformable to everybody’s will, or to the will of the “compact majority,” a deed is right. The will of this compact majority embodies itself in social ideals of conduct. “For this reason one often blames a person’s wrong acts or words with the expression: one does not say that, one does not do that (*das tut man nicht, das sagt man nicht!*)” (p. 67)—meaning that it is contrary to the practice of the typical man or of the compact majority. The latter also tends to enforce its will by punishments; and the fear of these becomes gradually embodied in the race in the form of conscience. “With regard to the origin of the pain of conscience, I hold it as the most probable view that it is the inherited consequence of those pains which have been

<sup>1</sup> *Sociale Differenzierung*, p. 13.

<sup>2</sup> *Ibid.*, p. 14.

imposed throughout many generations on the performers of deeds contrary to the customary morality" (p. 407).

Having thus evolved morality out of the wills or impulses of individuals, Mr. Simmel might have been expected to give some account of the origin of these impulses themselves. But on this subject not much light is thrown. One point on which he lays a good deal of stress is that these impulses are not to be regarded as primarily egoistic, any more than altruistic. He insists that altruism is quite as "natural" as egoism (pp. 85 *sqq.*). There is, indeed, as we have seen, a sense in which it is tautological to say that a man's actions are egoistic. He necessarily wills what he wills. But in any other sense than this his primitive tendencies are almost as often other-regarding as self-regarding; and many of our natural impulses cannot properly be described as either the one or the other (p. 152). Nor, again, are our impulses to be explained in a hedonistic way. Pleasure, indeed, is under all conditions a value for us (p. 317), and an accompaniment apparently (p. 316) of every desirable activity; but to suppose that it is pleasure that constitutes value is to confound a *conditio sine qua non* with the efficient cause (p. 316). Pleasure is, moreover, a name for such a variety of diverse feelings (pp. 311-2) that it does not really denote any one definite end to which our aims could be directed. "One cannot discover any definite and unambiguous presentation of happiness, the content of which could be represented as the goal of all human efforts; and all Eudæmonism comes in the end to this, that the actual aims of our activities, which are learned from experience, are represented as constituting happiness" (p. 312). Further, Mr. Simmel thinks (p. 361) that it is a mistake to suppose that the value for consciousness of our feelings is to be estimated simply by adding the pleasures and deducting the pains. It is not a mere residue. On the contrary, the mere *quantity* of our feeling, independently of its pleasure-quality, has a value for consciousness. Hence he even thinks that the moral imperative might be put in this form: "Do that whereby thou mayest immediately and mediately produce a maximum of activity" (p. 371). Thus Mr. Simmel seems to give no definite account of the origin of our impulses, or of their relative values, but rather accepts them as a multitude of given facts, and simply enjoins that they shall be maximised.

This is a general outline of Mr. Simmel's position, so far as I am able to discover it. But the atomism of his point of view seems to have affected his method of exposition, so that it is often difficult to discover any coherent unity either in his line of argument as a whole or in his treatment of particular subjects. Chapter ii., in particular, on Egoism and Altruism, though containing much of the most interesting matter in the book, appears to me to be an almost pathless chaos. Certainly, if Mr. Simmel aims at "persuading every sufficiently cultivated individual" of

the truth of his doctrine, he must endeavour to present it in a clearer and more consecutive form.

I cannot, however, regard Mr. Simmel's positive theory as the most important thing in his book. His theory seems to me to be interesting only as an instance—a very extreme instance—of the present revolt against constructive philosophy in Germany. This return of the sow that has been washed to its wallowing in the mire can hardly be seriously regarded. At least we may wait till Mr. Simmel refutes Kant and his idealistic successors with a thoroughness approximating to that with which these refuted Hume before we reconsider the question of returning to Hume's point of view. Of any attempt at such a refutation, or even of any attempt at a consecutive vindication of his own point of view, I have found no vestige in any of his writings. He scarcely refers to any of his predecessors, except Kant; and his general atomistic point of view seems to be simply taken for granted. Indeed, he appears to be almost incapable of understanding the idea of unity. Whenever he comes across it, he dismisses it at once as Mysticism<sup>1</sup> or "spukender Platonismus".<sup>2</sup> Perhaps the most striking instance of his incapacity to comprehend it is to be found in one of his other books,<sup>3</sup> where he is dealing with the conception of a divine purpose in history. Here he states that a Pantheistic view of the world makes things no clearer, because it is simply a form under which any and every content might be brought; and it leaves the particular facts as they were. Apparently he does not see that the essence of such a view as that of Plato, Spinoza, or Hegel consists in the negation of the view of the world as a mere aggregate of facts.

This incapacity to understand the idea of organic unity seems to me to vitiate Mr. Simmel's whole treatment of Ethics. At the same time I regard his book as one of great interest and value. I have seldom read any work that seemed to me so full of concrete suggestiveness. His treatment of Utilitarianism in the last chapter may be taken as an example.<sup>4</sup> Also his discussion of Egoism and Altruism (chapter ii.), Honour (pp. 190-212), &c. And his book is full, from beginning to end (as is also his earlier and hardly less important work, *Ueber sociale Differenzierung*), of admirable examples, acute analyses, suggestive problems, and pregnant remarks (e.g., "Ich habe wirklich nur das was Ich bin," p. 172). I may refer to his fine observations on Pessimism (especially p. 432), and on Beauty (pp. 435 *sqq.*). The excellence

<sup>1</sup> *E.g.*, *Ueber sociale Differenzierung*, p. 14.

<sup>2</sup> *Ibid.*, p. 10.

<sup>3</sup> *Die Probleme der Geschichtsphilosophie*, pp. 102-3.

<sup>4</sup> I may say, however, that his criticisms of Utilitarianism are seldom, in my judgment, conclusive, and sometimes even shallow. Indeed, a satisfactory criticism of Utilitarianism from the point of view of an atomistic presentationism is scarcely conceivable.

of his concrete matter often leads one to forget the inadequacy of his theory, and even appears to lead himself to the very verge of passing beyond it, so that one is tempted sometimes to exclaim: "Thou art not far from the Kingdom of Heaven!" Thus on p. 148 he illustrates the possibility of taking up a social point of view in a way that strongly suggests that society must be a real unity, and not a mere aggregate. But he saves himself by the caveat that this is due to an illusion. So again, on p. 88, he brings out the point that our moral life involves the conception of an ideal social unity. Here also he suggests a deeper view than his own.

In the richness and suggestiveness of his illustrations Mr. Simmel's work frequently reminds one of that of Dr. Paulsen. He seems to me, however, to lack that perfect good sense and maturity of thought by which Paulsen is so eminently distinguished. He frequently verges on paradox, and sometimes passes over entirely into it. As illustrations I may refer to his views about duelling (pp. 194-5), and to his explanation of the idea that happiness ought to follow virtue (p. 395). One of his arguments on temptation (p. 249) seems to turn on a pun. Even his paradoxes, however, are often highly instructive, and sometimes suggest a more adequate explanation which would remove the paradox. Thus, on p. 246, he remarks that it is often said that temptation or sin was too strong for a man; whereas we might with equal justice say that virtue was too strong for him. But the reason why we do not naturally say this seems clearly to be that the true self is the rational or virtuous self, and that consequently we do not regard this as a force against which the self struggles. Similarly, when he objects to Kant's idea that the virtuous man is free, and observes that a wicked man who had entirely stifled his conscience would be equally free (p. 289), the answer seems to be again that this would be so only if the true self could be found in wickedness and irrationality.

J. S. MACKENZIE.

## VII.—NEW BOOKS.

*By Various Hands.*

*Distinction and the Criticism of Beliefs.* By ALFRED SIDGWICK. London: Longmans, Green & Co., 1892. Pp. viii., 279.

The aim of this book is briefly indicated by the quotations from Locke which appear upon the title-page. It is intended as a contribution to the art of clear thinking, the method recommended being careful attention to context in the use and interpretation of words. The author holds with Bacon that "words, like the Tartar's bow, shoot back upon the understanding and do mightily entangle and perplex the judgment"; and it is for this source of confusion in thought that he is concerned to find a remedy.

It is to be observed that in Mr. Sidgwick's view the ambiguity of language which causes confusion of thought is due to "artificial sharpness" or "unreal distinctness";—by which he means that to the perfectly sharp and definite distinctions of language—right and wrong, straight and crooked, man and beast, blue and not-blue—there corresponds in Nature (that is, in the things and qualities to which the words apply) not similar sharp and definite distinctions, but a continuity in which things and qualities shade into each other by insensible degrees, in which any absolute distinction, any sharp marking-off of A from not-A, is unknown. So that, in fact, perfect classifications are to be regarded as not only unattained but unattainable. The same idea is roughly expressed by Whewell in his doctrine that "groups are given by Type, not by Definition".

The remedy for ambiguity which Mr. Sidgwick suggests—reference to context to the "special occasion"—is formulated as follows on p. 143: "The validity of any distinction is relative to the purpose for which it is used at the time". (*Relativity to purpose*, from the speaker's point of view, corresponds to *reference to context* from the hearer's point of view.)

As the *dicta* above quoted have to be here presented without context, two points seem to call for notice: (1) the use of the word *distinction* where *definition* might be expected; (2) the apparently decisive and universal rejection of anything like general definitions. As regards (1) it only needs to be observed that defining a word consists in deciding whether it connotes given characteristics or their negatives, *A* or not-*A*, &c. As regards (2) Mr. Sidgwick speaks of controversy, and especially controversy concerning "immaterial things—abstractions or ideals," as the region in which 'effective ambiguity' is principally to be found (*cf.* p. 229) recognising the existence of a body of *truisms* (in the sense of *propositions that are not questionable*); and he uses current language with ordinary confidence. Hence it appears that in his actual treatment the application of scepticism to language is limited, being, it seems to me, practically (and appropriately) confined to the "debatable outworks". Every one would of course admit that in a living and growing language there must be such a region—speech is an embodiment of thought, and a living language must change as the thought of those who use it changes; thus it is that we get fresh words to suit fresh discoveries and fresh

analyses, and the specialisation and generalisation of words by which language is from time to time so importantly modified, including the "spoiling" of words which Mr. Sidgwick discusses in ch. viii.

In theory, however, Mr. Sidgwick would apparently defend in its full breadth the view that "*all* distinctions are *really* rough" because all Nature is continuous. By a *rough distinction* is meant "a distinction where the contrasted notions, even at their sharpest (A and non-A), cannot be applied with perfect exactness to actual cases; where the actual cases cannot always be classed with strict right as either the one or the other, but where a certain proportion of them belong to a doubtful borderland" (p. 15). "Between the opposites *good* and *bad* . . . we insert a vague intermediate region called *indifferent*; where does this end, or what are the exact limits of *middle-age* or of the *middle classes*?" (p. 16). The difficulty is got over by allowing distinctions that are 'rough' to be treated as though they were 'sharp' on special occasions—what is 'really rough' is made 'artificially sharp'. In other words, though sweeping definitions are regarded as inadmissible, definitions for a limited and passing purpose are to be allowed. Or (to use still simpler terms) words must be consciously and deliberately interpreted by reference to context.

The whole book is very fresh in thought and expression, and shows many old questions in new and interesting aspects. Take, for instance (in addition to points already indicated), the treatment of controversy in ch. iv. and elsewhere. The discussion of this subject is original and admirable, and seems to me to be one of the most attractive portions of a book which is excellent reading throughout. It is, however, one to which it is difficult to do justice within the limits of a short notice, partly because it is so full of suggestion and provocative of discussion, partly because, in spite of clear style and happy illustration, it is not always easy to grasp the author's meaning fully, nor when grasped to summarise it.

Still on the whole what I regard as the main lesson which it teaches stands out clear and distinct—the doctrine, namely, that we can only interpret another's thought as expressed in language by careful reference to context; that a mere word or a mere label may on a special occasion (and practically we always have to do with special occasions) be valueless or hampering or misleading—that we must make our dictionaries by reference to authors rather than interpret authors by the dictionary.

We should have liked to say something about several other questions raised or suggested by Mr. Sidgwick—especially the Laws of Thought, the relation of Language to Thought, and of Nature to Language—the use of the terms Continuity and Distinction, Nature, Natural, Real, Artificial, 'Reference' and 'Descriptive' names. But space fails, and I must limit myself to a concluding remark on Distinction and the Continuity of Nature. Though admitting unreservedly the necessity and value of reference to context, I am not in sympathy with the theory of 'rough' and 'sharp' distinction which Mr. Sidgwick uses to express his view. For let it be granted that 'Nature is continuous'—still it seems to me that real distinction is not excluded, since there can be no continuity without difference—that the difference or distinction or change is as 'real' as the continuity, and that the continuity is as 'artificial' as the distinction. Surely men have not made language by "taking words at pleasure," and using them arbitrarily or perversely to indicate distinctions which are not real—every distinction which is sufficiently strong to have impressed language must also have been sufficiently

strong to have impressed many minds, and must therefore surely be real though its *value* may be limited. No individual man can despotically alter or add to a language which is the common instrument of a multitude any more than he can alter commonly accepted morality. We wish, no doubt, in our intercourse with others, to understand them and to be understood by them, and use words to that end; but no one is likely to be understood unless he uses language, in the main, as others use it—for this reason, that others have not used it arbitrarily but with a general endeavour to fit language to things and to their thought about things. Still doubtless language is improvable, as morality is improvable, by those who have surpassed to some extent the level of common ethics or common thought. And to such Mr. Sidgwick's book is likely to appeal with special force.

*An Introduction to General Logic.* By E. E. CONSTANCE JONES. London : Longmans, Green & Co., 1892. Pp. xxiii., 283.

This volume is intended as a "First Logic Book" which may be used in teaching beginners, and at the same time furnish a connected, though brief, sketch of the science. It diverges at several points from traditional doctrine, but the reasons for most of the divergencies have been already explained in the author's earlier work, and are omitted here.

About one fourth of the total space is reserved for Notes on topics not included in the systematic doctrine, but of historical or conventional interest, for a useful selection of questions borrowed chiefly from Jevons and from Cambridge Examination papers, and for an Index and Logical Vocabulary. Another fourth is given to the Import of Propositions and the Classification of Terms and Propositions, another to the Inferences, Immediate and Mediate, which are usually styled Deductive, about one eighth to Inductive Inference and the *quasi-inductive* topics of Division and Classification and Definition, and another eighth to Fallacies and the Scope and Categories of Logical Science.

On this partial submergence of Inductive Logic we may remark that not merely the conventional forms of Deduction are allowed to displace it, but a more thorough analysis of Import than is usual in elementary manuals ; and, further, that the author's conception of the scope of Logic could scarcely be consistently worked out except by sacrificing some of the interests which have shaped the modern department of Induction.

Logic is defined as the science of Propositions. The author does not pretend to refer back the system of our propositions to any ultimate corrective outside itself, whether mental or objective. She assumes that within the system may be found some propositions that are self-evident, and "that what is self-evident ought to be believed". And in her analysis of Import, the soundings do not go to a deeper level than that of the phenomena of language. What propositions deal with is "identity of application" of names, amid diversity of the characterisation which they effect. Under the influence of a conception such as this the reader must expect a special distribution of interest among the several topics usually noticed. The classification of terms and of propositions becomes very important. Distinctions must be explicitly drawn where a conceptual logician or a material logician might pass by with indifference. The author has here omitted some of the less important distinctions which she made in the Elements of Logic, but her distinctions are still more elaborate than those current in manuals. And we think that her terminology also has not without special justification broken away from traditions ; and that the assignment made of the function of quantification in inference, the appreciation of the conditions under which inference

may take place within quantitative and other complexes of relation, and the rearrangement and expansion of the scheme of Immediate Inferences, are all appropriate and valuable contributions to nominalist Logic.

But while a Science of Propositions gains thus in elaboration of content, it seems to lose in width of sphere. Induction must become a mode of manipulating propositions rather than an analysis of facts and an elimination of the unessential. The author includes it among Categorical Mediate Inferences, and distinguishes it from Deduction by the widening in the conclusion of the subject, which was narrower in the minor premiss. A passage from particularity to universality is afforded by means of a suppressed major, thus : Whatever has once been a cause of Y will be always a cause of Y ; X has been once a cause of Y ; therefore X will be always a cause of Y (=All X is cause of Y). So much for the generalising process. The justification of minor premisses for such syllogisms is accomplished by ordinary hypothetical syllogisms of which the major premisses are simply canons of the experimental methods or of analogy, and the minor premisses statements that an instance conforms to its canon.

The ideas of Uniformity and causal Interdependence which are used in this scheme of Inductive Inference are explained with marked care, as also in the final chapter are the nature of Identity and Diversity and the Laws of Thought. This thoroughness in the treatment of first principles, combined with the elaboration already noticed of the doctrine of Terms and Propositions, will give to the book a place of its own among our recognised means of logical discipline. But not all teachers will accept it as of itself sufficient. The hourly interest of our thoughts is directly in Things, and need must be felt of a system of doctrine which penetrates beneath the syllogistic layer of inductive thought, formulating conditions of success in unravelling the complexities of Nature itself without the conscious mediation of propositions.

*The Elements of Ethics.* By J. H. MUIRHEAD, M.A. London : John Murray, University Extension Manuals, 1892. Pp. xi, 239.

It was quite time that there should be offered to English readers a popular introduction to Ethics from the point of view of the flourishing school of English and Scottish Hegelians. This is now available in Mr. Muirhead's little book, which consists of an exposition of the realisation of Self in Common Good as the Ethical end, with criticism of competing methods and general definition of the scope and aims of the science. The criticism of Hedonism is well up to date ; every advantage of recent endeavours to amend it by reference to Evolution being liberally allowed. The student who makes his first acquaintance with Ethics through this manual may afterwards find in Hedonism more than Mr. Muirhead does ; but at least he will have been guarded from its cruder forms, and it will be his own fault if he mistakes psychological and biological generalisations for ethical principles. In what, for brief, we may call Hegelian Ethics Mr. Muirhead has evidently made the position his own, and his exposition reads as if coming warm from the writer's mind, an indispensable condition of success for an introductory teaching book.

Some defects must be noticed briefly. Why does Mr. Muirhead take the end parallel to Pleasure to be Self-sacrifice ? Has any solid theory ever stood upon a negative ? And are there not within English Ethics alone writers who gave some force to their exposition of Reason as a positive source of Ethical principle ?

Further, the treatment of the Intuitional Theory in §§ 30-32, though very clear and telling, represents that Theory as so fragile that the student will afterwards be surprised to learn the part it played in English and Scottish Ethics for a century after Locke's 'classic proof' (p. 76) of its untenability in one of its principal forms; there should be some reference to the Morality based upon Sentiment; there is no mention of authority as based upon Affection or Love in § 29; and as the examination of the objects of moral judgment discloses three objects (§ 35), should not something be offered as a guide to the specific conditions when one rather than another is preferred?

In point of arrangement the book requires emendation: book iv. should not be separate from book iii.; they both deal with Ends; and why does another End make a fissure in the examination of Pleasure? Such faults are evidently a result of the arrangement for lectures which should be avoided in the book.

The classified list of English works at the end will be useful, and there are frequent references to standard writers in notes at the foot of the pages.

In style and general manner Mr. Muirhead has successfully grappled with the great difficulty of presenting a contentious subject within 230 small pages; his illustrations are sometimes unnecessarily trivial, and on the other hand he often allows himself to use obscure technicalities of phrase; but on the whole there is vigour, brightness, and fluency in his work; and a student who takes this as his first book in the subject will not be likely to let it be his last.

*An Introduction to Ethics.* By J. CLARK MURRAY, LL.D., Professor of Philosophy, McGill College, Montreal. London: Alexander Garner, 1892. Pp. 407.

Dr. Clark Murray's work is more mature than Mr. Muirhead's, but it is not so modern in its position or its tone. Even less than Mr. Muirhead's, should it be called a 'Handbook,' as is done on the cover; besides, being unsystematic in its historical references, it contains no apparatus of study, not even a bibliography. It is an Introduction to the Science by means of an exposition from a certain standpoint combined with criticism of certain prominent counter-positions. The standpoint occupied by Dr. Murray is that of Idealism: he believes in an absolute imperative, and he lays out his subject as the science of Ideal human character. The special interest is the close and intimate acquaintance with Psychological Empiricism. It is to students who have come under Empirical influence at the outset of their studies in the Moral Sciences that this work is likely to be of the greatest assistance, as they will find their leaders from Mill to Mr. Leslie Stephen well driven to bay by arguments which they cannot refuse to meet—it is no conflict of Fox and Eagle, as is too often the case between the two main Theories of Ethics offered to the student of to-day.

While, however, Psychological interest is the source of special strength in this Introduction, it is also the source of its weakness as a presentation of the whole subject. Dr. Murray seems to be in some entanglement as between the subjective and the objective side of Ethics. He regards them as so related that they can be treated separately, and he makes their separation the basis of his order of procedure. First, he gives us a sketch (130 pages), on the subjective side, of Man as conscious of Obligation; and then another (100 pages), on the objective side, of the Obligation of which Man is conscious. The reason for this dual treatment

is not made clear; and the impossibility of maintaining the separation is manifest in the constant necessity of referring to the objective side by anticipation while sketching the subjective aspect—see pages 44, 46, 48, 62, 72, and 116. In this respect Dr. Murray evidences his kinship with the English Masters of Ethics; and perhaps it may be taken to be the leading contrast between his book and the Neo-Hegelian method and tone of Mr. Muirhead's. Apart, however, from this forced separation and consequent necessity of anticipation and repetition, the treatment is vigorous and the points of discussion are distinctly brought out.

The third section of the book, which is two-fifths of the whole, is devoted to Material Ethics—to the classification of Duties and to Virtue as the habit of Right or Good Conduct. This section adds very considerably to the value of the book as an Introduction. The student ought not to be so introduced to the science as to have any excuse for supposing that it is wholly occupied with a battle upon fundamental principles. In this department Dr. Murray is somewhat old-fashioned: the time-honoured divisions of Duties into Personal and Social, and into Determinate and Indeterminate, which Mr. Muirhead will no longer hear of, are sufficient for him. The section is full of matter and rich in psychological and ethical reflexions vigorously and impressively set forth, which, if not precisely new, give full impression of being first-hand. We would note as an example the treatment of the necessity for Training, p. 385 onwards.

Dr. Murray seems again carried away by his psychological propensities in his treatment of the relation of Ethics to Theology. He is of the same mind as Mr. Muirhead, believing that no Ethics can completely justify itself, but instead of giving a separate section to this ultimate topic he treats of it when engaged in an Exposition of the Education of Conscience. What he says is well said, however, and could easily be made worthy of its proper position.

Dr. Murray's style is singularly clear, weighty, and dignified; he eschews phrases and is independent of catch-words. His examples and illustrations are serious. His treatment of the great topics of moral interest is at once large, intimate, and firm.

*On the Perception of Small Differences.* By G. S. FULLERTON and J. MCK. CATTELL. Philadelphia: University of Pennsylvania Press, 1892. Pp. 159.

The authors of this investigation have already published in *MIND* a short summary of their results; so that it is unnecessary to set forth the contents of the monograph in detail. The aim of the research is the testing of the respective claims of the four psychophysical measurement-methods to determine the fineness of our sensational discrimination, and of those of Weber's law to be the expression of a constant relation existing between stimulus and sensation. The mental processes experimented upon are experiences of movement (*Kinæsthesia*), the "muscular sense" (lifting of weights) and sensations of light.

The selection of the two former departments of perception is somewhat surprising. "The complexity of the perception of movement," say the writers, "is so considerable, that there is much difference of opinion as to its nature, and for its study exact experiments are needed." But, in this case, the problem would be the isolation and variation of the separate factors which enter into the conscious state, and the examination of them by an approved method. The authors, on the contrary, treat the consciousness of movement as though it were a

simple process, and vary their stimuli just as is done for the pure sensations. There is no furtherance of psychological analysis in the perfunctory remarks on pp. 26-28. How do we judge of the extent of a movement? We are only referred to the influence of a sensation of strain, when the movement is comparatively extensive; and to memory.<sup>1</sup> More valuable is the observation that in judgments of force the reagent "was helped . . . by the variation in extent," and possibly also by the time. On the whole, however, force of movement was, in their experiments, more correctly estimated than time. This fact, taken in connexion with the results of direct experimentation with lifted weights, leads the writers to the conclusion that the hypothesis of Müller and Schumann must be given up; the perception of difference of weight is attributable rather to sensations accompanying the movements of wrist or forearm. The question is most important: but the conditions of the experiments of the last-mentioned investigators must be now exactly repeated, and their position met more in detail, before we venture to throw overboard their correlation of judgment of heaviness of weight and rapidity of movement.

The mention of this correlation—which is *not* Weber's law—brings one to the treatment of Weber's law in the present research. The authors find that their experiments upon movement do not confirm it. Well, why should they? Weber's law is the law of the correlation of difference in amount of stimulus and estimated difference of sensation. But here we are admittedly dealing with complicated processes, fusions of sensations; and not with sensations proper. If an uniformity like Weber's law could be proved—certain of the conditions of experiment in the investigation into extent and force of movement would go to make this difficult—we should be in presence of an interesting psychophysical discovery; but not of Weber's law.

In place of Weber's law is set up the principle<sup>2</sup> that "the error of observation tends to increase as the square root of the magnitude". This "error of observation," regarded by the writers as a physical quantity, is in essential an expression for the limen of difference of the first method, the measure of precision (limen of difference) of the second, and the mean variable error of the third. I cannot but think that the latter terminology is the more correct; the physical phrase seems unsuitable for the rendering of an attribute of consciousness. In physics, and in the natural sciences generally, the word 'error' is in place: the objective result is affected by the subjective factor. But for the psychologist, this latter is itself the material for investigation. The advantage of its exact analysis, in the way in which psychophysics undertakes it, is by the writers given up at the outset. The law itself appears to me to be both mathematically and psychologically untenable: psychologically, because (to take the instance given) the interval 2" is not, for consciousness, composed of two 1" intervals.

The objections taken to the method of minimal changes have been stated before, if not so forcibly. Even granted that they all hold, as regards the investigation of movement, the method is not thereby discredited for the study of pure sensation (*cf.*, e.g., Müller's definition of

<sup>1</sup> The writers appear to use the term 'memory' as equivalent both to memory proper and to *Einstellung*. Is there a colourless English word which corresponds to this latter?

<sup>2</sup> One of the authors (Prof. Fullerton) gives only a qualified assent to this formulation; partly on mathematical grounds.

the just noticeable difference). The exposition of the method of right and wrong cases (pp. 12-18) is exceedingly clear and good. It is interesting to note that the writers lay great stress on the association-factor, as influencing judgments recorded by the method of mean gradations. But this holds surely only as regards Merkel's method : and, in that connexion, the same observation had been made by Prof. Angell.

The tables and descriptions of experiments are models of simplicity and carefulness : indeed, the few technical objections which a critic would raise are, for the most part, indicated by the writers themselves. The most grave of these would be urged against the selection of a rectilinear movement, instead of a circular (*i.e.*, of a movement along the circumference of the circle, of which the moved limb is the radius). The discrimination between the error of adjustment and the error of perception is hardly successfully carried out. The observers have merely distinguished the willed from the executed movement. Where a discrepancy of this character obtains, the experiment is useless for the method of mean error. Müller's remark refers to the cases in which idea and execution tally. The monograph contains much that is valuable for the employment of the methods ; and many interesting psychophysical facts (as to practice, memory, &c.) come to light in the course of the discussion. What the reader misses is, as I said at the outset, a deeper going psychological (and physiological) analysis of the processes under investigation. And the conclusions of the paper are too radical to justify the curtiness of the references to previous work.

The chapter on light-sensations stands, psychologically regarded, apart from the rest of the research, in spite of the assimilation of the experimental method to those previously used. The just noticeable difference was found to be about one-seventh of the stimulus. But, in the first place, the illuminated area of the retina was small, and the stimuli faint; while, secondly, the fact that the compared sensations were successive—which led to the result that the “muscular sense” is about as accurate again as the sense of sight!—may very well account for a divergence of results from those of earlier investigators.

*Éléments de Philosophie.* Par GEORGE L. FONSEGRIVE, Paris. A. Picard et Kaan, 1892. Vol. II. Pp. 672.

Prof. Fonsegrive's first volume was devoted to Psychology. In this second and concluding volume he treats of Logic, Metaphysics, Ethics, and History of Philosophy. As a text-book his work has certain conspicuous merits. It is definite, lucid, and systematic throughout. On the other hand, it cannot be said to be in any high degree stimulating or suggestive. Philosophy, taught as M. Fonsegrive teaches it, forfeits to a large extent its distinctive value as a means of education. This value lies in its power to make the learner think for himself, instead of providing him with thoughts ready-made. But in this book everything is mapped out with dogmatic neatness and precision. There is nowhere any invitation to the reader to share with the writer the “labour of the notion”. There is no trace of the maieutic art.

As regards accuracy and soundness Prof. Fonsegrive's work is on the whole worthy rather of praise than of blame. Perhaps its gravest defect in this respect is a failure to understand and appreciate Kant. The various philosophical systems are divided in accordance with the Kantian classification under the heads, Scepticism, Criticism, and Dogmatism. Prof. Fonsegrive, with good reason, declares himself to be a Dogmatist. But when we inquire how he meets the objections of Kant,

we find that he entirely misapprehends the standpoint of Criticism. Thus he writes (p. 187), "According to this system (the Kantian) there are a number of principles or laws which govern, each in its turn, our representations. Now, nothing in the system explains why in actual experience one principle is applied rather than another, or why it is sometimes impossible to apply this or that principle to certain of our representations. . . . But if my principles were really constructive of my experience in its entirety, they ought always to be applicable, any of them whatever to any representation whatever. A purely passive matter will never refuse to run in any fashion into any mould." No one could write in this way unless he thoroughly misconceived the fundamental doctrine of Kant, that objects are *given* in sense and only *thought* by the understanding. Indeed, it is difficult to understand how on such an interpretation of Kant there can be any meaning in the distinction between the theoretical and the practical reason. Prof. Fonsegrive evidently supposes Kant's view to be that thought actually manufactures the physical world out of the raw material of sense.

The sketch of the History of Philosophy is on the whole fairly good. Aristotle, Bacon, Descartes, Leibniz, and Berkeley are treated best. Locke and Hume might just as well have been omitted. No one could gather the slightest hint of their meaning and importance from what is said of them. Perhaps the most striking inaccuracy is found in the account of Socrates, who, according to Prof. Fonsegrive, opposed his *Dogmatism* to the *Scepticism* of the Sophists.

At the end of the volume there is a list of subjects for dissertations given at the Sorbonne and elsewhere which occupies no less than 44 pages.

ARNOLDI GEULINCX Antverpensis *Opera Philosophica*. Recognovit J. P. N. LAND. Volumen secundum. Hagae Comitum apud Martinum Nijhoff, MDCCXCII. Pp. viii., 520.

Prof. Land is discharging with exemplary punctuality, and also with exemplary care in all other respects, the important philosophical enterprise which is the complement of his (and Van Vloten's) previous labour on Spinoza. To his sumptuous collected edition of the great Occasionalist's scattered, or hitherto unpublished, writings, there now remains only to be added the third and final volume, which may be expected a year hence as the present volume has followed within a year of the first (see MIND, No. 64, p. 552). As the logical matter could not be all included in vol. i., so now from vol. ii. among the systematic works has had to be left over the *Ethica*, by which thus far Geulincx has been best known (or least unknown); but the volume offers, notwithstanding, much of the highest interest. As under the head of *Metaphysica* we have both his own "true" (Cartesian) doctrine and his version of the Peripatetic tradition, so under *Physica* there is now given, before his "true" explanation of natural phenomena, a hitherto unknown treatise plumply designated *Physica falsa sive ad mentem Peripateticorum*. Otherwise interesting, in connexion with the *Methodus inventiendi Argumenta* and a previously unknown *Tractatus de officio Disputantium* placed first in the volume, is the series, with which the volume ends, of actual *Disputationes* on matters logical, metaphysical and physical in which Geulincx himself officially took part during his last years. His use of the old forms of discussion at a time when he was so irrevocably committed to the positions of the new philosophy has a peculiar interest. As soon as the *Ethica* and other remaining works appear, there should be no delay in

attempting to fix a notion of Genlinox's whole philosophical performance. That it stands in special relation to much that is regarded as specially characteristic of English thinkers has not escaped observation, even with his works so hard of access as they have hitherto been. Phenomenism with a difference—so, perhaps, may his view of things be described. The difference is there and it is not small (as it is there and not small in Berkeley compared with other English philosophers); but for all effective purposes, there the Phenomenism is no less.

*Die Probleme der Geschichtsphilosophie. Eine erkenntnistheoretische Studie.*  
Von GEORG SIMMEL, Privat-docent an der Berliner Universität.  
Leipzig : Verlag von Duncker und Humblot, 1892. Pp. x., 109.

This little pamphlet is primarily a discussion of the aim and method of a philosophy of history, but incidentally it is much more than this. In discussing the function of the philosophy of history, Mr. Simmel is led to indicate with considerable fulness the nature of his general theory of knowledge, and his view of the relation of philosophy to the sciences. It is a work of great interest to all students of psychology and philosophy, and will be especially interesting to readers of Mr. Simmel's larger work, *Einleitung in die Moralwissenschaft*. It is divided into three chapters—I. On the psychological presuppositions involved in the study of history. II. On historical laws. III. On the significance of history. In the first chapter he points out that history is concerned with psychical phenomena, and that these are not direct objects of observation. The question is, how the historian is able to know them. "Since it is the taste of history not merely to know facts of knowledge but also facts of will and feeling, this taste can only be fulfilled in so far as by some psychical means the facts of will are rewilled and the facts of feeling refelt by the historian" (p. 15). "The difficulty is that the phenomena thus produced in me are at the same time not mine, that I think of them as historical facts, while at the same time I am conscious of them in my own mind, so that I have to regard them at once as my own presentations and as those of some one else" (p. 16). The discussion of this problem leads him into an interesting examination of what is meant by genius, especially the dramatic genius which enables a man to put himself in the position of another. He concludes (p. 25) that it is to be explained by a sort of Platonic "reminiscence" of the experiences of the race. In the second chapter he considers the question why it is that there is a philosophy of history rather than a science of it, and concludes that the explanation is that the phenomena here dealt with are too complex to be analysed into their atomic constituents, as the physical sciences analyse their facts. Consequently, we cannot arrive at exact scientific laws in this case, but only at derivative laws of a more or less speculative character. Now, "philosophy is a kind of preliminary science, whose more general conceptions and principles help us to bring phenomena into a certain systematic order, until the analysis of them shall lead us to a true scientific knowledge of their elements, and to an exact insight into the active forces that underlie them" (p. 60). "Philosophic reflexion fulfils the function of the Baptist; it supplies hints, conjectures, and sketches for some one else to fill in" (p. 63). The concluding chapter carries this idea farther, and contains an attack on the philosophical conception of a meaning, significance, value, or "divine purpose" in history. Since each individual sets certain ends before him in his life, it is a natural error to suppose that humanity as a whole, being a collection of individuals, is also moving towards certain

ends. But in reality teleological conceptions are quite as inapplicable to history as to the material world (p. 100). He concludes by saying (p. 105) that metaphysical speculation has sometimes been referred to a sort of artistic impulse. It might be truer to refer it to the play-impulse. It has only a sort of symbolic value. The philosopher is like a child who takes "a stick for a horse, a piece of wood with a rag round it for a doll, and a doll for a human being". "Just as we say of the senses that they do not err, not because they always judge rightly, but because they do not judge at all; so we may say of metaphysics that it never mis-understands its objects, not because it has always a correct knowledge of them, but because it does not understand them at all" (p. 104). All this is interesting as illustrating the extremest form of the German reaction against philosophy.

*Vorlesungen über die Menschen-und Thierseele.* Von W. WUNDT. 2te, umgearbeitete Aufl. Leipzig: L. Voss, 1892. Pp. xii., 495.

Twenty-nine years have elapsed since the publication of the first edition of these lectures—perhaps in England the best known and oftenest quoted of any of Prof. Wundt's works. That the author has at length undertaken the task of correction and revision, in preference to rewriting the book altogether, is due, as he tells us in the new preface, mainly to two reasons. Firstly, a considerable portion of the original might remain unaltered; and the clearness and freshness of the early exposition would hardly be attained again. But, secondly, much of the old book was out of date, and many views found representation in it which the writer is not now prepared to uphold. The new edition is, therefore, more than a reissue of a more or less popular work: it is the reflexion of Prof. Wundt's present attitude to a whole series of vexed psychological questions.

The appearance of the book is greatly altered. In place of the two volumes, with their nearly 1000 pages, we have a single volume, with about half that number; while the fifty-seven lectures have become thirty. The most obvious cause of this curtailment is the omission of the lectures on *Völkerpsychologie*, and of the "Additions and Remarks" printed at the end of each of the former volumes. One may, perhaps, hope that the suppression of the former means the publication of a separate work: indeed, the words of the preface seem capable of such an interpretation.

The first four lectures correspond pretty nearly (though the first is greatly shortened) to chapters of the first edition. They contain a brief sketch of the development of psychology, a statement of the ultimates of psychological analysis, and the treatment of the intensity of sensation. Sensations are defined as the irreducible elements of ideas: a definition which seems more correct than the general one of the *Phys. Psych.*, although, of course, the difficulty is only shifted from *Empfindung* to *Vorstellung*. The exposition of the measurement of intensity of sensation, and of Weber's law, which has become a *locus classicus* in psychological literature, stands practically as it did. What is lost in comprehensiveness by referring merely to a single psychological method is more than gained in lucidity. The only change is the substitution of the psychological standpoint. The question as to the existence of "negative" sensations is rather one of terminology than of anything else. Consistently with his view that the sensation is something which is simply dependent on alteration of stimulus, whether the alteration be noticed or not, the author always speaks, in connexion with Weber's law, of our

*estimation* of sensational difference. Lectures 3-6, inclusive, of the old edition, which were mainly physiological and logical, are unrepresented in the new, if we except the paragraphs on the rapidity of thought, which are referred to in a different connexion (pp. 290 ff.).

The fifth, sixth and seventh lectures, which have undergone a complete revision, deal with the quality of sensation. The notion of sensational fusion is introduced in the section on clang-colour; the phenomenon seems to be regarded merely as intimate association (*c.f.* pp. 308, 151). The law regulating our sensibility to difference for tone-quality is discussed at length. Helmholtz' theory of colour-perception, which the writer has long since given up, has been replaced by brief criticisms of Helmholtz and Hering, and a paragraph on his own theory. Contrast-phenomena, again, are no longer referred to deception of judgment, but to the general law of relativity; as in the *Phys. Psych.* Lecture 12 of the old edition, on the structure and function of the sense-organs, has not been incorporated in the new.

The following six lectures have been less changed. They deal with reflex-action, muscle-sensations, the perception of space, and visual ideas. The phrase 'sensation of innervation' has not been introduced; and the theory of localisation in space is simplified by the omission, for expository purposes, of all the sensations which attend bodily movement, other than the muscle-sensations. Very little alteration, in spite of criticism, has been found necessary in the pages which treat of the influence of eye-movement on spatial vision. Like most other psychologists, Prof. Wundt gives the predominant place in the consciousness of the congenitally blind to the sense of touch. It is doubtful if hearing is not in reality more, or equally important. Lectures 18-20, inclusive, of the old edition (self-consciousness, consciousness, idea) have been omitted; and lecture 17 (metaphysic of space) greatly curtailed.

The chapter on the feelings has to a large extent been rewritten. It is, perhaps, regrettable that the term *Gefühlssinn* has been retained here as in the *Phys. Psych.*; it is likely to cause confusion. The earlier position that feeling cannot be an original mental process, since it is contained in the sensation, is modified rather farther in the direction of independence than is the case in the *Phys. Psych.* The existence of mixed feelings is in the new book in so far admitted, as there can occur, in cases of rapid succession of divergent feelings, an overlapping of these in consciousness, whereby arises a new 'total' feeling, different from the original constituents, but partaking of their natures.

Lectures 15-24 are in their present form new, though they correspond in some part to the omitted series 18-20, 23-29 of the first edition. The first two deal with the development of will and with consciousness. In the latter, apperception and attention are marked off from one another. "Apperception and attention are related to one another in such a way that the former term covers the objective change occurring in the ideational content, while the latter denotes the subjective sensations [muscular] and feelings which attend or precede this change." This terminology is different from that of the *Phys. Psych.*, and will, I fear, set another stumbling-block in the way of students of the apperception-theory. For the rest, the accounts of passive and active apperception, and of attention and will follow broadly the lines of the *Phys. Psych.* The eighteenth lecture deals with the time-relations of mental processes; the two succeeding with the association of ideas, simultaneous and successive. The analysis of the forms of association, contiguity and similarity; and the treatment of its simplest cases, cognition and recognition; stand on the basis of the recent *Phil. Stud.* article, "Bemerkungen zur Associations-

lehre". Prof. Scripture's indirect association is accepted as furnishing the explanation of Herbart's *frei steigende Vorstellungen*.

Over against the associative are ranged the apperceptive combinations of ideas : collective ideas and concepts, the logical judgment, the train of constructive imagination. The intellectual functions do not receive here the comparatively full treatment of the first edition, being relegated to the spheres of logic and aesthetics. Paragraphs on mental disease are introduced. It is characterised, in the first instance, by the predominance of associative as compared with apperceptive thinking; secondly, by incapacity for concentration of the attention. Dreams, somnambulism and hypnotic phenomena are next treated of; the exposition of the latter reproducing in substance parts of the article "Hypnotismus und Suggestion" in the *Phil. Studien*.

Lectures 23 and 24 deal with animal psychology. Prof. Wundt is of the opinion that the animal consciousness has not advanced beyond the associative stage ; and many of Dr. Romanes' most telling anecdotes are ruthlessly analysed from this standpoint. In the earlier edition, the higher animals were credited with a more complete psychical development (*cf. i. 459*). The difficulty of the present position is the spring from association to apperceptive combination. It is, no doubt, true that every child makes this spring (p. 397) ; but its determining cause is hard to see. The animal fits his environment exactly ; and we ourselves take much trouble to reduce apperception to association. The author would say, as in the *Phys. Psych.*, that the germ of the apperceptual activity is given in the most primitive impulse, but that it only assumes its definite character in the human consciousness.

The five following chapters correspond more or less closely to six of the old lectures (31, 51 and 52, 42, 55 and 56). The first three treat of the emotions and their expression, impulsive and voluntary action, and instinct. A whole lecture is devoted to a consideration of human instincts, these furnishing the foundation for the erection of a theory of instinct in general. The social instincts of animals are then considered. Lastly, the twenty-ninth lecture takes volition for its subject. The discussion of the problem of the causality of will is very little altered from the previous edition.

The final lecture has been completely rewritten. Its two chief topics are the law of psychophysical parallelism, and the question of the nature of mind. The style is lighter than that of the concluding chapter of the *Phys. Psych.*, and the ultimate problem handled from a standpoint more akin to that of the *System der Philosophie*.

The book is essentially a book for beginners in psychology, or for the educated public who wish to obtain some knowledge of experimental psychology, without the trouble of mastering its technicalities or of experimenting for themselves. For the psychologist it has the further value, which I emphasised at the outset. It would be impertinent in a reviewer to 'recommend' a book of Prof. Wundt's on his own science : one can, however, express the hope that the *Lectures*, in their new form, will find a large audience in Germany, and before long be translated for the benefit of the world of English-speaking students.

*Über Sittliche Dispositionen.* Von Dr. ANTON OELZELT-NEWIN, Privat-docent an der Universität in Bern. Craz : Leuschnen & Lubensky, 1892. Pp. 92.

This is an interesting study of the inheritable elements in moral character, written from a sober and critical standpoint. The inheritable

'moral' tendencies are, in Dr. Oelzelt-Newin's opinion, only six, *viz.*, predispositions to the six emotions—fear, anger, sympathy, love, shame, pride. Certain inheritable intellectual and volitional tendencies, as also certain inheritable physical conditions, enter as factors in moral character; but the term, as well as the present inquiry, must be limited to the above tendencies to emotion, as more primordial and essential elements. The application of the term even to these seems to us misplaced and to obscure the position taken up, *viz.*, that moral character and tendencies to moral actions, which are essentially complex, are not inheritable, but are developed by 'education' (environment, &c.), out of simpler elements, which are inheritable, and of which the most important are the above six tendencies to emotion.

The method adopted in this inquiry is that of observation and analysis. Two general arguments drawn from the inheritability of parallel bodily phenomena and of 'moral insanity,' which cannot be sharply divided off from extreme cases of normal tendencies, are advanced, and then each of the six emotions is examined in turn, these general arguments applied to them and other special arguments (differences in animals and children under similar conditions, the inefficacy of education, &c.) adduced. The alternative method of statistics Dr. Oelzelt-Newin criticises as worthless unless adequately supplemented by the analytical, and in an examination of the inquiries of Mr. Francis Galton and of De Candolle he shows very clearly the difficulty of obtaining results at once adequately analysed and of sufficient range. The most valuable results as yet obtained by this method are those yielded by "Psychiatrie".

It is in such criticism as this that the chief value of the treatise lies. The whole question of heredity might with advantage be treated with the same soberness, and the same corrective of analysis and observation applied to the too readily accredited results in other provinces than the 'moral,' and the value of the work before us would be enhanced if it were made a chapter in such larger inquiry. Whether the method of analysis and observation can yield positive results of any great value in this field, in the absence of any psychological Methuselah capable of observing succeeding generations, is a question open to doubt, at any rate so far as the higher psychological products are concerned, since in their case we cannot argue from analogy with comparatively short-lived animals; but undoubtedly Dr. Oelzelt-Newin is in the right in claiming for it a larger place than it commonly occupies.

*Philosophie der Arithmetik: psychologische und logische Untersuchungen.*  
Von Dr. E. G. HUSSERL, Privat-docent der Philosophie an der  
Universität zu Halle. Erster Band. Halle Saale: C. E. M.  
Pfeffer (Robert Stricker), 1891. Pp. xvi., 324.

We have here the first volume of an important work likely to be of especial interest to those who are concerned with the Theory of Knowledge. We hope to furnish a more extended notice of it when the second volume, which the author promises shortly, comes to hand. The whole work is to consist of four parts (of these the present volume contains the first two): (1) in the main psychological, the analysis of the concepts of plurality, unity, and number apart from symbolic forms of representation; (2) an examination of these symbolic forms and of the effect that our dependence upon symbols has in shaping the problems and methods of numerical arithmetic; (3) the logical investigation of arithmetical algorithmic, and, in particular, of the results of inverse operations—negative, imaginary, fractional and irrational numbers; and

(4) the nature and scope of universal arithmetic. In an appendix to this volume the author also hopes to fill up a gap in our existing logic by treating generally of the logic of symbolic methods or "Semiotic". The work is thus obviously one that can be dealt with critically only when it is complete.

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 Dr. E. Rolfs, *Die Aristotelische Auffassung vom Verhältnisse Gottes zur Welt und zum Menschen*. Berlin: Mayer & Müller, 1892. Pp. 202.  
 J. Eitle, *Grundriss der Philosophie*. Freiburg: J. C. B. Mohr, 1892. Pp. xvi., 304.  
 Alfr. Lehmann, *Die Hauptgesetze des menschlichen Gefühlslebens*. Leipzig: O. R. Reisland, 1892. Pp. 356.  
 Philosophische Gesellschaft zu Berlin, *Acht Abhandlungen*. Herrn Professer K. L. Michelet zum 90 Geburtstag als Festgruss dargebracht. Leipzig: Verlag von C. E. M. Pfeiffer, 1892. Pp. 102.

## VIII.—PHILOSOPHICAL PERIODICALS.

THE PHILOSOPHICAL REVIEW.—Vol. i, No. 4. Dr. J. H. Hyslop—Inhibition and the Freedom of the Will. [“It is not the presence or absence of a nexus between motive and volition that determines the question (of the freedom of the will), but the source of the agency acting as a motive. If that agency be ideational the will is free, and in order to reach that stage of complete freedom involved in the dominant influence of ideational centres inhibition must break the natural connexion strengthened by habit, between sensations and emotions and volitional action.”] Mary W. Calkins—A Suggested Classification of Cases of Association. [The best article in the number. The leading division is between desistent and persistent associations. In the case of the desistent, no part of the suggesting “object of consciousness” persists along with the object suggested. The persistent associations are so named because in their case the “earlier object” persists and combines with the later. Both these classes are subdivided under the heads “total” and “partial” association, according as the whole or only a part of the earlier object is operative in calling up the later. The paper is throughout thoughtful and suggestive. The old associationism is criticised from the standpoint of James. It may be urged that the criticism shows an imperfect recognition of the underlying facts which give vitality to the theory assailed. The account of desistent association does not seem quite satisfactory. It is assumed that the previous object passes out of consciousness before the succeeding one arises. But it seems that, in most cases at least, what we are justified in saying is that the emergence of the suggested object involves the gradual obscuration and final extrusion of that which suggests it.] Dr. H. Nichols—The Origin of Pleasure and Pain. [The thesis maintained is that all pleasure and pain in the widest application of these terms depends on the stimulation of specific pleasure-nerves and pain-nerves. The argument seems to be based on a misconception of the results obtained by Goldscheider in his experiments on the sensibility of the skin. It is assumed that the pain-points are the only parts of the skin which can be painfully stimulated. But this is only true if we use the word pain in a very restricted sense. Goldscheider himself admits that temperature sensations may be highly disagreeable in the same way as a bad smell or a dazzling light is so.] Hiram M. Stanley—On Primitive Consciousness. [The primitive consciousness is pain, “not pain in any particular kind, but wholly undifferentiated bare pain”. The line of argument by which the writer supports his position is far from clear, and it is certainly not cogent. We are told that a “bright colour gives pleasure before we see it, and this pleasure incites to the seeing it”. But no reasons are given for this very paradoxical statement.] Reviews of books, &c.

Part xxi. of the PROCEEDINGS OF THE SOCIETY FOR PHYSICAL RESEARCH (June, 1892) is entirely occupied by a record of Dr. Richard Hodgson’s “Observations on certain phenomena of trance” exhibited by Mrs. Piper—a lady who appears to go off into a trance almost at will, and in that trance to talk volubly, with characteristics quite different from her ordinary manner and voice, on details concerning which she has had no

information given her. Prolonged investigations have more and more strengthened Dr. Hodgson in the conviction "that Mrs. Piper's trance is a genuine abnormal state, and that the normal waking Mrs. Piper has no direct knowledge whatever of the sayings and doings of her trance personality". He further agrees with Prof. Lodge in regarding it as beyond doubt that much of the information she possesses in the trance state is acquired by some means other than those known to physical science : and he is convinced that it cannot be accounted for entirely by the hypothesis of thought-transference from other persons present during the trance. His investigation is being continued, and further results will be given in a later article.

In part xxii. of the *Proceedings*, a different aspect of Dr. Hodgson's work is present : he makes an elaborate attempt to convince Mr. Alfred Russel Wallace of the validity of the results of some careful experiments, made in conjunction with Dr. Hodgson by the late Mr. S. J. Davey, an amateur conjurer, on the possibilities of mal-observation and lapse of memory in *bonâ fide* witnesses of marvellous phenomena—see *Proceedings* of the S. P. R., vol. iv. pp. 381-487. Both this article and the previous record of experiments contain useful instruction, not merely for the very limited number of educated persons who take "mediumistic" performances seriously, but for all who are interested in examining closely the sources of modern superstitions. Mr. Myers furnishes two more chapters on the "Subliminal Consciousness"—one on "The Mechanism of Genius," the other on "Hypermnestic Dreams". The latter gives several striking instances of the operation in dreams of what appears to be memory of unconscious perceptions.

THE INTERNATIONAL JOURNAL OF ETHICS opens with a suggestive article by Mr. Alexander on "Natural Selection in Morals"; the title, however, is perhaps misleading, since what Mr. Alexander describes is the process of spreading new moral ideas by persuasion and education, and not the tendency of certain moral ideas and sentiments to be preserved through the success, in the struggle for existence, of individuals and societies in which they are found. Mr. W. L. Sheldon makes a frank and attractive attempt to answer the difficult question "What attitude should the pulpit take to the labour problem?" Mr. Charles Zeublin, in a paper on the "Ethics of the Jewish Question," aims at showing that the Jew has been the "victim of environment," that his objectionable characteristics are due to seclusion and persecution, and that "with opportunity he can change". We must make room for him, and prevent his resorting to his past gregarious habits, by legislation, directed not against Jews in particular, but "against all people who attempt to collect in dense colonies". Mr. W. R. Thayer writes on "Machiavelli's Prince," arguing that during the past three centuries and a half "the attitude of states towards each other has remained Machiavellian;—which is true so far as regards the practical acceptance of the principle that the end of national self-preservation justifies any means, but not true in the sense that the means recommended by Machiavelli have been commonly accepted as well adapted to the end. Mr. Thayer's remedy—"to abolish the old falsehood that there is one standard of right for the single citizen and another for all the citizens"—seems crudely conceived, since it ignores the variations in the standard of right that common-sense would admit for individuals, if they were placed in social relations similar to existing international relations. Prof. Carneri writes hostilely of the "founding of a new religion"—a movement which in England is hardly vigorous enough to challenge attack. Mr. Frank

Chapman Sharp attempts one more "Analysis of the idea of obligation". The reviews are carefully written and interesting.

BRAIN.—Pt. lviii. A. Miles, M.D.—On the Mechanism of Brain Injuries. ["Concussion of the brain" is the result of a temporary anaemia of that organ, and this anaemia is the reflex result of stimulation of the restiform bodies, and perhaps other important centres in the region of the bulb, by the impact of the wave of cerebro-spinal fluid, which the blow sets up. The mechanism of this process is carefully discussed.] E. Dupuy, M.D.—The Rolandic area Cortex. [In the grey matter of the cerebro-spinal system there is no specified localisation of functions in the sense understood by the majority of physiologists and all physicians. "The grey tube element is neither motor nor sensory." The writer confronts the orthodox with some puzzling facts and arguments.] F. W. Moll, M.D.—Ascending Degenerations resulting from Lesions of the Spinal Cord in monkeys. R. T. Williamson—The Changes in the Optic Tracts and Chiasma, in a case of unilateral Optic Atrophy. E. Goodall, M.D.—On certain microscopical changes in the nerves of the limbs in cases of general paralysis of the insane. Sanger Brown, M.D.—On hereditary insanity, with a series of twenty-one cases. The reviews include notices by E. B. Titchener of James' *Principles of Psychology*, Sully's *Human Mind*, Baldwin's *Handbook of Psychology*, and Waller's *Introduction to Human Physiology*.

REVUE PHILOSOPHIQUE (17<sup>e</sup> Année, No. 6).—A. Fouillée—Existence et développement de la volonté. I. Existence de la volonté. [By the term "will" M. Fouillée proposes, as he somewhat loosely puts it, to express "ce fait, que, dans tout état de conscience, même le plus élémentaire, la phase sensitive est inséparable d'une phase émotionnelle et celle-ci d'une phase appetitive ou réactive". More precisely, he aims in the present paper at establishing the existence of this third, the reactive, phase, though treating it in close connexion with his general conception of consciousness as a processus of these terms (discernment, well-being or discomfort, and reaction), and of his doctrine of 'idées-forces'. His special arguments (the appeal to the introspective analysis of the antecedents of movements, &c.) are however independent of the general theory, and seem sufficient to establish the fact of 'reaction'. It is difficult however to gather precisely what and how much M. Fouillée understands by 'reaction'. He calls it 'appetition,' but seems to include in, or confound with, it facts more commonly brought under 'attention'. Nor does his condemnation of "les interminables discussions psychologiques sur l'existence ou la non-existence d'une 'activité' quelconque, soit dans l'attention et l'apperception, soit dans la volition proprement dite," as coming "de ce qu'on raisonne toujours dans l'hypothèse de facultés distinctes," throw much light on his own position with regard to 'appetition'. The general conception of "idées-forces," though interesting as a recognition of the unity—the solidarity—of consciousness, seems very inadequate as a psychological reconstruction. Physiologically, M. Fouillée holds that there are no specifically motor centres, but that the appetitive reaction is, on the physiological side, a restitution of movement transformed by the organism, not a passive reception of external impressions, while his philosophical position is that "physical energy is the external expression of psychical energy, that is, of the will, which is omnipresent and constitutive of reality itself".] Lalande—Sur quelques idées du baron d'Holbach. [A paper exhibiting the close affinity of d'Holbach's views and methods with those of Herbert Spencer.

In both systems of philosophy there is the same fundamental idea of Nature, the same theory of Knowledge, the same naturalistic method, and a similar system of Ethics is given the same position among the sciences. The difference due to the introduction of the theory of evolution is great in form rather than in reality, and merely gives a little more 'vraisemblance' to the same conception of the world and of man.] G. Sorel—*Essai sur la philosophie de Proudhon*. [Treats of Proudhon's theory of Justice and of Contradictions, and seeks to explain the manner in which he based economics upon psychology. The psychological basis, when reached, does not seem to us a very definite one.] Burke Delabarre—(*Laboratoire de psychologie physiologique*). *L'influence de l'attention sur les mouvements respiratoires*. [Experiments with results leading to the conclusion, "que toute modification dans l'attention produit des modifications dans la rapidité et dans la profondeur de la respiration ; et que ces modifications sont plus considérables à mesure que l'effort de l'attention augmente," but that the changes are less considerable and even imperceptible in the case of persons whose normal respiration is very rapid, for the reason that their normal respiration approximates to the type necessary to the maintenance of attention.] A. Binet—*La perception de la durée dans les réactions simples*. [Experiments on the perception and estimation of variations in length of reaction-time, undertaken with the object of throwing light on the relations between the conscious and unconscious. M. Binet finds that while in general variations of '03 or '04 of a second can be accurately judged, below that limit variations are by some persons never accurately perceived, but by others are perceived though with increasing inaccuracy (greater number of false judgments) as the variations become smaller. From these results he concludes that with certain persons there is no 'threshold' of consciousness, no fixed limit, separating the conscious from the unconscious, but 'degrees'.]—No. 6. G. Fonsegrive—*L'inconnaissable dans la philosophie moderne*. [A not very convincing attempt to show that the principles of the Kantian critique, so far from proving the metaphysical objects (self, the world, God) to be transcendent and unknowable, really involve the knowledge of these objects. M. Fonsegrive argues that while Kant refuted empiricism, and consequently positivism, by pointing out the existence of universal and necessary laws, he did not thereby establish the truth of *a priorism*, because there remains a third alternative, *viz.*, to attribute an objective value to these laws, to conceive them as the laws of real existences independent of, though perceived by, the mind. This alternative M. Fonsegrive adopts on the ground that "l'expérience même de la conscience dément l'hypothèse idealiste et ne peut s'accorder avec elle".] J. Combarieu—*La musique d'après Herbert Spencer*. [Criticises Spencer's theory of the origin of music as an undue simplification of facts though true as far as it goes. The most important element in music is 'la pensée musicale,' and the power of music rests in the close union between this idealistic moment and the realistic moment, *viz.*, the imitation and expression of the real world.] G. Sorel—*Essai sur la philosophie de Proudhon* [concluded from the June number]. Analyses et comptes rendus, &c.

ZEITSCHR. F. PSYCH. U. PHYS. D. SINNESORGANE.—Bd. iii., Heft 5. F. Brentano—Ueber ein optisches Paradoxon. [A consideration of the arrow-head and -feather illusion, which the writer strangely regards as new. This and cognate illusions are explained by the law of the over-estimation of small and under-estimation of large angles, as against theories of eye-movement, &c.] A. Szili—“Flatternde Herzen”.

[Helmholtz had referred these phenomena to the difference in the latency-times of colour-sensations. The author regards the retinal excitation as compounded of colour-contrast and the projection of a negative after-image. The direct visual perception is impeded in two ways: by the retardation of the retinal impression, due to diminution of the stimulus-intensity; and by the continuance of the subjective retinal excitation, due to the predominating qualitative stimulus.] F. Hitschmann—Ueber Begründung einer Blindenpsychologie von einem Blinden. [A most valuable paper. The writer states emphatically that the most important sense for the blind is that of hearing, while touch plays a very subordinate part. It is pointed out that in asserting touch as principal factor in the construction of the external world of the blind, many psychologists fall into the error of visualising the result of this construction. The idea of the plastic is, on the contrary, normally foreign to the blind consciousness.] O. Schwarz—Bemerkungen über die von Lipps und Cornelius besprochene Nachbilderscheinung. [The explanations of Lipps (Bd. i., 60 ff.) and Cornelius (Bd. ii., 164 ff.) are rejected, and the two parts of the after-image referred to two differently localised sensations of one and the same retinal excitation. This seems, certainly, the more correct view, though he has hardly done Prof. Lipps justice, having misunderstood him on several points.] Litteraturbericht. [A useful paper by Edinger—Ueber die Leistungen auf dem Gebiete der Anatomie des Centralnervensystems im Laufe des Jahres, 1890.—] Bd. iii., Heft 6. M. Tscherning—Beiträge zur Dioptrik des Auges. [1. The useful, harmful, and lost light; and the intensity of the corresponding images in the eye as compared with dioptric instruments and with a simple lens. 2. Theory of the origin of the optical images in the eye. 3. Description and use of the ophthalmophakometer. 4. Results of observations: cornea, pupil, lens. 5. Summary of results and testing of measurements. 6. A hitherto undescribed change in the lens during accommodation: towards the end of accommodation the lens is displaced in a downward direction.] Th. Lipps—Optische Streitfragen. [1. Somewhat heated remarks on misunderstandings of the author's position (Bd. i., 60 ff.) in the explanation given by Dr. Schwarz (Bd. iii., 398 ff.) of the after-image phenomenon, also previously discussed by Prof. Cornelius (Bd. ii., 164 ff.). 2. A good criticism of Prof. Brentano's article, Bd. iii., 349 ff. For the latter's explanation the writer will substitute that given by himself in his "Æsthetische Faktoren der Raumanschauung". The danger of attempted explanations of isolated cases or groups of optical illusions is rightly emphasised.] Litteraturbericht. H. v. Helmholtz—Berichtigung.

ARCHIV FÜR GESCHICHTE DER PHILOSOPHIE.—Bd. v., Heft 4. E. Zeller—Miscellanea. [Seven more or less disconnected notes on dubious passages relating (mainly) to earlier Greek thinkers.] V. Brochard—Sur la Logique des Stoïciens. [A clear exposition and noteworthy vindication of the importance of the Stoic Logic, as a more consistently nominalistic doctrine than even Mill (who evidently had not studied it) was able to work out.] P. Tannery—Encore trois lettres inédites de Descartes à Mersenne. [Recovered by the library of the Institute from the Libri theft; one of them gives evidence of highly developed experimental tact in Descartes.] W. Dilthey—Das natürliche System der Geisteswissenschaften im siebzehnten Jahrhundert. [The author, having completed his novel and striking account of European thought in the fifteenth and sixteenth centuries, here proceeds to deal with the obscure origins of the system of Modern Naturalism which arose upon the failure

of the theological philosophies. The origins are here traced in all the foremost European countries, but chiefly in Holland, where Coornhert began from about the middle of the sixteenth century the work of compounding the strife of religious confessions and sects. The Stoic factor in the development of modern thought falls next to be treated.] A. Döring—Wandlungen in der pythagoreischen Lehre. Jahresberichte (E. Zeller, C. Baeumker).

VIERTELJAHRSCHRIFT FÜR WISSENSCHAFTLICHE PHILOSOPHIE.—Bd. xvi., Heft 3. J. von Kries—Ueber Real—und Beziehungs-Urtheile. [The writer recognises the fundamental importance of Riehl's distinction between judgments and conceptual propositions. But he prefers to apply the term judgment to both classes, distinguishing them as real judgments and judgments of relation. He subdivides both classes according to a plan of his own. The most important part of the article deals with the nature of mathematical judgments, maintaining their *a priori* character as against Helmholtz and those who think with him. He argues convincingly for the ultimacy of the conceptions of equality and inequality in space and time and their logical priority to all physical measurement.] A. Voigt—What is Logik? [A vindication of symbolic Logic as against the strictures of Husserl in the Göttingensche *Gelcherte Anzeigen* for 1890. It is maintained that Symbolic Logic deals with the same problems as "Philosophical Logic". But Philosophical Logic is apparently identified with Syllogistic.] R. Ulassak—Zur Psychologie der Landschaft. [The enjoyment of landscape scenery is carefully analysed.] M. Dessoir—Nic. Teten's Stellung in der Geschichte der Philosophie. [Teten is an antimaterialistic Empirical philosopher with critical tendencies. He belongs neither to the Wolffians nor to the Eclectics nor to the Popularisers. The critical element in his thought separates him from his contemporaries, Tielemann, Zuckert and Beausobre. The article is especially interesting in its presentation of Teten's position as a pioneer of modern empirical and even experimental psychology.] Anzeigen, &c.

PHILOSOPHISCHE MONATSHEFTE.—Bd. xxviii., Heft 3 u. 4. A. Rosinski—Die Wirklichkeit als Phänomen des Geistes. [An attack on the doctrine of the Ding an sich.] Long reviews of R. Eucken's book, *Die Einheit des Geisteslebens im Bewusstsein und That der Menschheit*, by P. Natorp, and of Jules Thomas' *Principes de Philosophie Morale*.—Heft 5 u. 6. A. Rosinski—Die Wirklichkeit als Phänomen des Geistes. [This second and concluding article continues in the same strain. The writer seems guilty of a confusion between content of consciousness and object of thought.] R. F. Kaindl—Wesen und Bedeutung der Impersonalen. [All so-called impersonal sentences have a subject which is unexpressed, though this subject is not the agent concerned in the action indicated by the verb. They are appellative judgments (Benennungsurtheile). In all of them a concrete reality, which is the tacitly implied subject, is designated by a name expressing a general concept.] E. Kühnemann—Zur Geschichte und zum Problem der Ästhetik. [Deals with H. von Stein's *Die Entstehung der neueren Ästhetik*.] The reviews include a long and appreciative notice of Prof. Caird's *Critical Philosophy of Immanuel Kant*, by E. König.—Heft 7 u. 8. M. Offner—Ueber die Grundformen der Vorstellungsverbindung. [A good article, treating mainly of the reduction of so-called association by similarity to association by contiguity. The case for this reduction is stated with convincing clearness and force, and the arguments urged on the other

side by Höffding are subjected to a searching criticism.] E. Kühnemann—*Zur Geschichte und zum Problem der Ästhetik.* [Discusses H. Cohen's *Kant's Begründung der Ästhetik.*] Reviews. Litteraturbericht, &c.

RIVISTA ITALIANA DI FILOSOFIA.—Anno vii., vol. ii. (July and August). G. Marchesini—La Dottrina metafisico-psicologica di Andrea Cesalpino. [An examination of Cesalpino's philosophy, based in particular upon the *Questioni peripatetiche*, iii., vi., vii. and viii., *viz.*, that the first moving cause is speculative, not active, intelligence; that intelligence is one, namely, God; that human intelligence multiplies itself according to the number of human beings; that the souls of men are immortal. The writer shows that the main, though not the sole, tendency in Cesalpino is to pantheism, and concludes that "in the dispute between the Averroists and Alexandrians . . . Cesalpino proffered a solution, the terms of which are perhaps inconsistent with the proper essence of the doctrine, but not so much so to prevent its being a step towards the emancipation of Aristotelian thought from the speculations of the Scholastics".] N. R. D'Alfonso—Note psichologiche al Macbeth di Shakspeare. [A study of Macbeth and Lady Macbeth as pathological subjects.] F. Ciechitt-Suriani—Del divino nell'educazione e dell'insegnamento religioso. [A paper advocating the teaching in state schools of Christianity, not in its doctrinal, but in its ethical aspect.] Bibliographia, &c.

## IX.—NOTES.

### HELEN KELLER.

Readers will not have forgotten the marvellous blind deaf-mute child, Helen Keller, whose case has already twice been reported in MIND (xiii. 314, xiv. 305). After three years' interval, the progress of her education is again officially recorded in the *Sixtieth Annual Report* (1892) of the Perkins Institution for the Blind in Boston, Mass.; and the information is supplemented in various important respects by a somewhat later memoir, from the Volta Bureau of Washington, entitled *Helen Keller: Souvenir of the First Annual Meeting of the American Association to promote the Teaching of Speech to the Deaf* (2nd ed.). Among much else of profound psychological interest to be noted in the record of the last three years (till the middle of 1891), one fact stands out of prime import, that the deaf child, though blind, is no longer dumb—can speak with her lips and with the lips can be spoken to.

The achievement is so remarkable as to justify liberal quotation here from the first-hand reports. Helen, be it remembered, was born as late as June, 1880 (though she is now of a stature, 5 ft. 2 in., and weight, 122 lbs., uncommon in a girl of twelve); her regular education upon the general lines of Dr. Howe's famous treatment of Laura Bridgman did not begin till close on the end of her seventh year. Her devoted teacher, Miss Sullivan, gives the following account of the new step forward :—

"It was just three years from the day when Helen became conscious that she could communicate her physical wants, her thoughts, and her impressions through the arbitrary language of the fingers, to the time when she received her first lesson in the more natural and universal instrument of human intercourse—oral language. Previous to March, 1890, no effort whatever had been made to teach her to speak, and her only utterances were instinctive, like those of a young child. . . . By means of the manual language she had acquired a comprehensive vocabulary, which enabled her to converse freely, read intelligently, and write good idiomatic English. Nevertheless, the impulse to utter audible sounds was strong within her, and the constant efforts which I made to repress this instinctive tendency were of no avail. It did not occur to me that my pupil might possess unusual aptitude for learning articulation. I knew that Laura Bridgman had shown the same intuitive desire to produce sounds, and had even learned to pronounce a few simple words, which she took great delight in using, and I did not doubt that Helen could accomplish as much as this. I thought, however, that the advantage she would derive would not repay her for the time and labour that such an experiment would cost. . . .

"When she was stricken down with the illness which resulted in her loss of sight and hearing, at the age of nineteen months, she was fast learning to talk. The unmeaning babblings of the infant were becoming day by day conscious and voluntary signs of what she felt and thought. But the disease checked her progress in the acquisition of oral language, and when her physical strength returned it was found that she had ceased to speak intelligently because she could no longer hear a sound. She continued to exercise her vocal organs mechanically, as ordinary children do. Her cries and laughter and the tones of her voice as she

pronounced many word-elements were perfectly natural, but the child evidently attached no significance to them, and with one exception they were produced, not with any intention of communicating with those around her, but from the sheer necessity of exercising her innate, organic, and hereditary faculty of expression. She always attached a meaning to the word *water*, which was one of the first sounds her baby-lips learned to form, and it was the only word which she continued to articulate after she lost her hearing. Her pronunciation of this gradually became indistinct, and when I first knew her it was nothing more than a peculiar noise. Nevertheless, it was the only sign she ever made for water, and not until she had learned to spell the word with her fingers did she forget the spoken symbol. The word *water* and the gesture which corresponds to the word *good-bye* seem to have been all that the child remembered of the natural and acquired signs with which she had been familiar before her illness. . . .

"At the time when I became her teacher she had made for herself upwards of sixty signs, all of which were more or less ingenious, and were readily understood by those who knew her. Whenever she wished for anything very much she would gesticulate in a very expressive manner. Failing to make herself understood, she would become violent and often uncontrollable. . . .

"For some time after Helen and I became constant companions we had no adequate means of communication, and the child was often thrown upon her own resources for amusement. She would sit beside me after a lesson, or wander restlessly about the house making strange though rarely unpleasant sounds. When sitting she would make noises, keeping one hand on her throat, while the fingers of the other hand noted the movements of her lips. Occasionally she would break out into a merry laugh at some passing fancy, and then she would reach out and touch the mouth of any one who happened to be near her to see if she or he were laughing also. If she detected no smile she would gesticulate excitedly, trying to convey her thought; but, if she failed to make her companion laugh, she would sit very still for a few moments, with an expression so troubled and disappointed that I shall never forget it. She was pleased with anything that made a noise. She liked to feel the cat purr; and, if by chance she felt a dog in the act of barking, she would show great pleasure. She always liked to stand by the piano when some one was playing and singing. She would keep one hand on the singer's mouth, while the other rested on the piano, and she derived so much enjoyment from a performance of this sort that she would stand in the position described as long as any one would sing to her; and afterwards she would make a continuous sound which she called singing. The only words she had learned to pronounce with any degree of distinctness previous to March, 1890, were *papa*, *mamma*, *baby*, *sister*. These words she had caught without instruction from the lips of friends. It will be seen that they contain three vowel and six consonant elements, and they formed the foundation for her first real lesson in speaking. During the latter part of the winter of 1889-90 she became gradually conscious of the fact that her means of intercourse with others were different from those employed by her little friends and playmates who were only blind; and one day her thoughts on the subject found expression in the following questions: 'How do the girls know what to say with their mouths? Why do you not teach me to talk like them? Do deaf children ever learn to speak?' I explained to her that there was a school in Boston where deaf children were taught to speak, but that they could see their teacher's mouth, and learn partly in that way. Here she

interrupted me to say that she was sure she could *feel* my mouth very well.

"A short time after this conversation a lady came to see Helen and told her about little Ragnhild Kaata, a deaf and blind child who had been taught to speak and to understand by touching her teacher's lips what he said to her. Helen's joy over this good news can be better imagined than described. 'I am so delighted,' she said, 'for now I know that I shall learn to speak too.' I promised, if she would be patient, that I would take her to see a kind lady who knew all about teaching the deaf, and who would know whether it would be possible or not for her to learn to speak. 'Oh, yes, I can learn,' was her eager reply, 'I know I can, because Ragnhild has learned to speak.'

"She did not mention the subject again that day; but it was evident she thought of little else, and that night she was not able to sleep. She began immediately to make sounds which she called speaking; and I saw the necessity of correct instruction, since her heart was set upon learning to talk. Accordingly, I went with her early in March to ask the advice and assistance of Miss Sarah Fuller of the Horace Mann School. Miss Fuller was delighted with the child's enthusiasm and earnestness and immediately began to teach her to speak. . . .

"She was not content to be drilled in single sounds or meaningless combinations of letters. She was impatient to pronounce words and form sentences. The length of the word or the difficulty of the arrangement of the letters never seemed to discourage her. When she had been talking for less than a week, she met her friend Mr. Rodocanachi, and immediately began to struggle with the pronunciation of his name; nor would she give it up until she was able to articulate the word distinctly. Her interest never diminished for a moment; and in her eagerness to overcome the difficulties which beset her on all sides, she taxed her powers to the utmost. . . . She was in a constant state of mental excitement, which finally affected her health seriously. In less than a month, she was able to converse intelligently in oral language. . . .

"She prefers to speak rather than to spell with her fingers, and is very much pleased when told by strangers that they understand her readily. She is now learning to read by touching our lips what we say to her, and is almost as quick at catching the meaning of words and phrases as we utter them as she is at forming them for herself. She can even read in this way words in foreign languages with which she is not acquainted. She understands the necessity of close observation, and carefully notes the slightest vibrations resulting from articulation. Every day she makes fresh progress in the art of speaking."

Next may be given this letter from Helen to Miss Fuller on 3rd April, 1890, only eight days after the oral instruction began:—

"My heart is full of joy this beautiful morning, because I have learned to speak many new words, and I can make a few sentences. Last evening I went out in the yard and spoke to the moon. I said, 'O moon, come to me!' Do you think the lovely moon was glad that I could speak to her? How glad my mother will be! I can hardly wait for June to come, I am so eager to speak to her and to my precious little sister. Mildred could not understand me when I spoke with my fingers, but now she will sit in my lap and I will tell her many things to please her, and we shall be so happy together. Are you very, very happy because you can make so many people happy? I think you are very kind and patient, and I love you very dearly. My teacher told me Tuesday that you wanted to know how I came to wish to talk with my mouth.

I will tell you all about it, for I remember my thoughts perfectly. When I was a very little child I used to sit in my mother's lap nearly all the time, because I was very timid, and did not like to be left by myself [*i.e.*, after her illness]. And I would keep my little hand on her face all the while, because it amused me to feel her face and lips move when she talked with people. I did not know then what she was doing, for I was quite ignorant of all things. Then when I was older I learned to play with my nurse and the little negro children, and I noticed that they kept moving their lips just like my mother, so I moved mine too, but sometimes it made me angry and I would hold my playmates' mouths very hard. I did not know then that it was very naughty to do so. After a long time my dear teacher came to me, and taught me to communicate with my fingers and I was satisfied and happy. But when I came to school in Boston I met some deaf people who talked with their mouths like all other people, and one day a lady who had been to Norway came to see me, and told me of a blind and deaf girl she had seen in that far-away land who had been taught to speak and understand others when they spoke to her. This good and happy news delighted me exceedingly, for then I was sure that I should learn also. I tried to make sounds like my little playmates, but teacher told me that the voice was very delicate and sensitive and that it would injure it to make incorrect sounds, and promised to take me to see a kind and wise lady who would teach me rightly. That lady was yourself. Now I am as happy as the little birds, because I can speak, and perhaps I shall sing too. All of my friends will be so surprised and glad."

Miss Fuller's account of the method of instruction is as follows :—

"In June, 1888, Helen A. Keller, accompanied by her mother, Mr. Anagnos and her teacher, Miss Sullivan, paid a visit to the Horace Mann School. As she went from class to class, her interest in the children and her ready use of English suggested to me that she could be taught to speak. At that time it was thought unwise to allow her to use her vocal organs ; but when, nearly two years later, she learned that a deaf and blind child had acquired speech, she spelled upon her fingers, 'I must speak'. In response to this emphatic announcement I gave her her first lesson in speech.

"I began by familiarising her with the position and condition of the various mouth-parts and with the trachea. This I did by passing her hand lightly over the lower part of my face, and by putting her fingers into my mouth. I then placed my tongue in the position for the sound of *i* in *it*, and let her find the point, as it lay perfectly still and soft in the bed of the jaw, just behind the lower front teeth, and discover that the teeth were slightly parted. After she had done this, I placed one of her forefingers upon my teeth, and the other upon my throat or trachea, at the lowest point where it may be felt, and repeated the sound *i* several times. During this time Helen, standing in front of me in the attitude of one listening intently, gave the closest attention to every detail ; and when I ceased making the sound, her fingers flew to her own mouth and throat, and after arranging her tongue and teeth she uttered the sound *i* so nearly like that I had made, it seemed like an echo of it. When told that she had given the sound correctly, she repeated it again and again. I next showed her, by means of her sensitive fingers, the depression through the centre of the tongue when in position for the sound of *ü*, and the opening between the teeth during the utterance of that sound. Again she waited with her fingers upon my teeth and throat until I sounded *ü* several times, and then she gave the vowel fairly well.

A little practice enabled her to give it perfectly. We then repeated the sound of *i* and contrasted it with *a*. Having these two differing positions well fixed in her mind, I illustrated the position of the tongue and lips while sounding the vowel *ə*. She experimented with her own mouth, and soon produced a clear, well-defined *ə*. After acquiring this, she began to ask what the sounds represented, and if they were words. I then told her that *i* is one of the many sounds of the letter *i*, that *a* is one of the sounds of the letter *a*, and that some letters have many different sounds, but that it would not be difficult for her to think of these sounds after she had learnt to speak words. I next took the position for *a*, Helen following as before with her fingers, and while sounding the vowel slowly closed my lips, producing the word *arm*. Without hesitation she arranged her tongue, repeated the sounds, and was delighted to know that she had pronounced a word. Her teacher suggested to her that she should let me hear her say the words *mamma* and *papa*, which she had tried to speak before coming to me. She quickly and forcibly said '*mum mum*' and '*pup pup*'. I commended her efforts, and said that it would be better to speak very softly, and to sound one part of the word longer than she did the other. I then illustrated what I wanted her to understand by pronouncing the word *mamma* very delicately, and at the same time drawing my finger along the back of her hand, to show the relative length of the two syllables. After a few repetitions the words '*mamma*' and '*papa*' came with almost musical sweetness from her lips.

"This was Helen's first lesson. She was an ideal pupil, for she followed every direction with the utmost care, and seemed never to forget anything told her. She had but ten lessons, yet in this short time she acquired all of the elements of speech, and combined them easily and naturally. At the close of her lessons she used speech fluently.

"Helen received her first lesson on the 26th of March, 1890; and on the 19th of the following month, while at the house of a friend, she gave oral account of a visit she had made to Dr. Oliver Wendell Holmes. I sat near her while she was speaking, and noted the words as they fell from her lips. I think there were but four that I did not fully understand, and those I asked her to spell upon her fingers . . . .

"Her free use of speech on this day was very noticeable. She seemed conscious of the possession of a new power, and gave herself up to the full enjoyment of it. On her way home she remarked: 'I am not dumb now'."

Less than one year later (20th Feb., 1891), Dr. J. H. Williams, principal of an institution for deaf-mutes at Hartford, Conn., going to see Helen in a very sceptical mood but having all his doubts quickly removed, gives this notion of the progress she had made in the interval: "I sat down beside her, and carried on [presumably by manual signs] a running conversation concerning a great variety of subjects for nearly half-an-hour, and during all that time her part of the conversation, which was animated and sprightly and full of fun, was conducted entirely by speech, and speech so distinct that I failed to understand very little of what she said. She seemed never at a loss for language to express an idea, nor even to hesitate in giving it orally. It was an intelligent speech in a pleasant voice." She had meanwhile begun to make efforts to sing, or (as she called it) 'vibrate,' by imitating the felt movements of lips, throat and chest; also to play the piano. A little later (March-June, 1891), she had regular musical lessons, into which she entered with

characteristic ardour. She ended, for the time, by playing a two-handed piece very creditably, and not without expression, knowing when she was playing louder by the way she pressed the keys and by the stronger vibrations.

How are we now to understand such a triumph of articulation? It is first to be noted that Helen had already shown a positive genius for expression. To be able, after only two years of manual instruction, to read and write with her easy mastery, means a quite exceptional gift. She had almost no difficulty, when starting at the age of seven, in divining a relation between (manual) sign and thing signified. Nor did she remain any time at the level of apprehending single signs, but proceeded swiftly to such combinations as expressed first the relations of physical objects, next the subjective relations of memory-images, feeling and thought proper,—and all with a perfection of grammatical syntax that seemed to cause her hardly any effort. We may suppose, then, that her rich and well-compacted store of words had but to undergo translation from the manual into the oral form to become at once available for true speech. As originally it had "flashed" upon her that the (manual) sign stood for its significate, so now again it was as by sudden flash that the oral sign came to stand to her for the other. But if flash there was, let it not be forgotten how much preparatory work had been done through all the earlier years. Helen's own reminiscences and Miss Sullivan's observations evince in the child an extraordinary spontaneity of vocal utterance. Repressed for a while by the manual instruction, it needed but the least stimulus from without to reassert itself in full force, and, with all the manual acquirement already there, to burst forth in a stream of articulate speech.

But there is still something wanting to an understanding of the earlier manual achievement, so unexampled in its pace. Prof. Graham Bell, in the *Souvenir*, tries to get from Miss Sullivan confirmation of a view he propounded some years ago in the American journal *Science* (No. 329), that in the case of the deaf much reading should be made the substitute for that overwhelming stimulus to expression which comes to the hearing child through the constant iteration of sounds. Children receive, by ear, from parents, nurses and others a large stock of words and sentences, which go far beyond their needs of expression at the time, but are there for future use when occasion calls. Now, as Prof. Bell contended, the deaf child can acquire so serviceable and necessary a store only by reading; and reading, if steadily enough pursued, may easily leave by iteration a far greater deposit of word-symbols than the hearing child acquires by sound. The one drawback which Prof. Bell seemed to overlook is that it may prove very difficult, even with the help of a teacher, to keep a deaf child reading for an hour or two, whereas the ear of a hearing child may easily be kept engaged from morning to night. But it is just here that Helen Keller's wonderful faculty told. Though her teacher started with no theory on the subject, she allows that a prime factor in Helen's development has been a perfectly insatiable appetite for reading; and she adds that, for herself, she has always treated her pupil as far as possible as she would have done a hearing child, and in particular has not been at all careful to keep within the limits of the child's understanding for the time being, but has freely given her unfamiliar words which she might gradually come to understand from their connexion with the more familiar. So far as it goes, Helen's case is therefore distinctly confirmatory of Prof. Bell's theory. But we are, after all, left for the manual, as for the oral, achievement with no other

fundamental assumption than that of a mental endowment of the highest order in all that concerns expression.

No mere faculty of expression, however, can account for the extraordinary qualities of this fascinating child. There are here recorded of her a multitude of other traits, intellectual and moral, which in their way are quite as remarkable as her powers of language ; while of these also there is something more, and something very curious, to recount. We propose to return to the subject in the next number.

G. C. ROBERTSON.

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THE INTERNATIONAL CONGRESS OF EXPERIMENTAL PSYCHOLOGY.

This Congress, which held its sittings on the first four days of August, was attended by over three hundred persons, including nearly a hundred visitors from all parts of Europe, and from America and Australia. The meeting was a decided success. All branches of experimental psychology received a due share of consideration in the papers and discussion. Owing to the abundance of material, it was found advisable to place Neurology and Psychophysics in one section (A), and Hypnotism with kindred questions in another (B). The following is a general account of the proceeding in each of these sections :—

*Section A.* The PRESIDENT, after welcoming the foreign visitors, said that it had been the aim of those who had arranged the programme of the Congress to make it as adequately representative as possible of the various lines of inquiry, pursued by very diverse methods, which come within the range of Experimental Psychology—understood in a wide sense. He confessed that England, the ancient and traditional home of Empirical psychology, had taken comparatively little share in the recent movement of the science in an experimental direction : and hoped that this meeting might help to stir English psychologists to follow their American colleagues in emulating the laboratory work of Germany. The importance of physiology to psychologists had been recognised by giving it a leading place in Section A : while, in assigning Section B to Hypnotism and Cognate Subjects, the aim had been to carry on the work of the last Congress without any break of continuity, and at the same time without giving an undue place to any one branch of inquiry. In the study of hypnotism France had taken the lead ; and he was glad to welcome a full representation of the French investigators of the subject.

Prof. BAIN followed with a paper on the "Respective Spheres and Mutual Aids of Introspection and Experiment in Psychology," which will be published in the next number of MIND.

Dr. GRUBER, from Roumania, then presented a report of experiments, made in continuation of those of which he had given an account at the Congress of 1889, on the peculiar association of sensations of one sense with images belonging to another, which some exceptional human beings' experience. The leading case of this is the association of sound with imaginary colour : but similar associations are found between several pairs of senses,—among others he mentioned cases of "resistance gustative" and "chromatismes de température". His most elaborate experiments on "coloured audition" had been made with a man of considerable intellectual cultivation, capable of exact introspective observation ; whose associations of imaginary colours with vowels and numbers had been carefully tested and found to be remarkably precise and regular.

Mr. Francis Galton, in the course of some remarks on the paper,

mentioned that the Egyptologist Lepsius had similarly associated colour with sound, and had found the association useful in his philological inquiries.

*Prof. Richet* then read an interesting paper by Prof. RIBOT—who was unable to be present—on the results of his inquiries into the state of consciousness produced in different individuals by the hearing of general terms.<sup>1</sup> The discussion of this paper concluded the proceedings of Monday morning.

On Monday afternoon, after a suggestive survey of “The Future of Psychology” by Prof. RICHET, Prof. PIERRE JANET read a paper on certain remarkable cases of morbid amnesia, which led to some discussion. An account of this will be given in connexion with the proceedings of Section B. Dr. W. R. NEWBOLD, of the University of Pennsylvania, concluded the proceedings with a paper recording the results of systematic introspective observation of the “characteristics and conditions of beliefs in or immediately suggested by concrete objects actually present to consciousness”. The beliefs—abstracting from differences in the object of belief—are found to be alike “in a certain vague quality, and a vague, probably pleasant, feeling-tone”; and to vary only in intensity. The only essential condition of the occurrence of such a belief is “the presentation to consciousness of a vector-state or sequence involving a perception”: but it is affected by other conditions, such as the frequency with which the sequence in question has occurred, which bears a relation to the intensity of the belief, and the feeling-tone of the object of belief.

On Tuesday morning the discussions in Section A were purely neurological. Prof. Hitzig presided. First, Prof. HENSCHEN of Upsala traced the path of the visual nerve-process in man to the “visual centre in the cortex of the calcarine fissure”. Prof. SCHÄFER gave the results of experiments tending to show that the prefrontal lobes are not especially the seat of intelligent attention; and Dr. WALLER discussed more generally the functional attributes of the cerebral cortex. The debate in which most divergence of opinion was manifested arose out of Prof. HORSEY’s paper on the “Degree of Localisation of Movements and Correlative Sensations”.

The theories expounded in this section on Tuesday afternoon—though still primarily physiological—had a more direct psychological interest. Prof. EBBINGHAUS, of Berlin, gave a long but interesting exposition of a theory of colour-perception based on Hering’s, but differing from this (1) in identifying Hering’s “yellow-blue” substance with the visual purple found in the rods of the retina, (2) in attributing the twofold sensation connected with each visual substance to a twofold process of decomposition, instead of (as Hering) to decomposition and restitution of the substance. Thus, according to Ebbinghaus, the decomposition of visual purple causes the sensation yellow, then when this decomposition has produced “visual yellow” a further decomposition is the means by which we get the sensation blue. A corresponding twofold decomposition must be assumed to take place in a “red-green substance” which we must suppose to exist in the cones where no visual purple is found.

<sup>1</sup> These results were partly published in the *Revue Philosophique* for October, 1891 (see MIND, Jan., 1892, p. 154); but the paper contained an account of some further experiments. One group of these, made upon hypnotic subjects, will be noticed later, in connexion with the proceedings of Section B.

Another paper was then read on the same subject by Mrs. LADD FRANKLIN, in which certain difficulties of the Young-Helmholtz theory were sought to be avoided, not by adopting any modification of Hering's view, but by supposing a gradual differentiation of "colour-molecules," in the course of evolution, out of a substance which originally only caused sensations of black, white, or grey.

The discussion that followed was addressed chiefly to Prof. Ebbinghaus' theory: against which the complicated character of the hypothetical physiology involved, and the unexplained latency of the red-green substance, as compared with the obviousness of the visual purple, were urged as objections. Prof. Ebbinghaus, in reply, admitted that if all attempts to discover the red-green substance failed, the theory would have to be dropped; but he did not regard it as surprising that the search had yet to be made.

In the general meeting on Tuesday afternoon, the first paper read was by Prof. PREYER, of Berlin, on "Arithmogenesis". The concepts of number, like other concepts, must arise somehow through sensation: the child must *feel* numbers before it thinks them. We cannot suppose that the series of integers resulted from addition of 1 to 1, 1 to 2, and so on: since this hypothesis presupposes the knowledge of a number—2—and of the method of addition; but both these cognitions have to be acquired. Prof. Preyer holds that they are normally acquired chiefly through hearing and comparing tones, and only receive a subsequent confirmation through touch and sight. "*Die kleinen ganzen Zahlen sind ursprünglich Namen für die befriedigendsten Tonintervallgefühle.*" This view of the origin of numbers he held to throw light on the relations between prime and other numbers.

*Prof. Richet* then read a paper by Prof. LOMBROSO—who was prevented from being present by ill-health—on the "Sensibility of Women". It gave the result of systematic experiments with special appliances, on the comparative fineness of the sense of touch, and the sensibility to pain, in both sexes. Prof. Lombroso's conclusion from these experiments was that the sensibility of women was markedly inferior to that of men in both cases. This experimental result he regarded as confirmed by the experience of surgeons as to the greater power of enduring pain manifested by women. The popular opinion to the contrary he held to be due to the greater tendency of women to give expression to feelings of pain, by tears or otherwise: such expression being in their case less restrained by public opinion, and being even encouraged by experience of its utility as a means of persuasion. He was disposed to attribute the greater longevity of women partly to their inferior susceptibility to pain.

The proceedings concluded with a paper by Prof. LLOYD MORGAN on "The Limits of Animal Intelligence". He laid down (1) that, human psychology being the only key to animal psychology, we should first study animals in close affinity to man; and (2) that in no case is an animal activity to be interpreted as the outcome of the exercise of a higher psychical faculty, if it can fairly be interpreted as the outcome of the exercise of one which stands lower in the psychological scale. He held that we may fairly suppose a dog to have a "wave of consciousness" like in its general nature to our own, and internally determined by contiguity, and probably also by similarity. But applying his second principle, he concluded that it was premature—in the present state of the evidence—to attribute to the dog introspection or definite perception of relations as distinct from mere "feeling or sensing" of relations.

*Prof. Sully* expressed a general agreement with Prof. Morgan's

views : he had always thought that there was a tendency in dealing with animal mind to read too much of human forms of psychosis into its processes, and that even Darwin, with all his caution, had not avoided this error.

On Wednesday morning the chief discussion in Section A was psycho-physical, introduced by two papers, which Dr. Mendelsohn, of St. Petersburg, and Prof. Heymans, of Gröningen, respectively contributed. Prof. Ebbinghaus presided. Dr. MENDELSSOHN deduced from clinical observations, made on a large number of partially anaesthetic persons, the conclusion that the "parallel law" of Fechner is not applicable to pathological modifications of sensibility. Prof. HEYMANS laid down as the result of experiment that a normally perceptible pressure, or a normally perceptible difference between two pressures, may be rendered imperceptible by a pressure operating at some distance ; and that the inhibitive force of such a pressure—measured by the difference which it just renders imperceptible between two other pressures—is proportional to its intensity. He proposed accordingly to explain Weber's law—so far as valid for pressures—as an effect of the inhibitive force of the stimuli compared.

*Dr. Martius* thought that Prof. Heymans' explanation was open to the fundamental objection that it explained the relatively simple by the relatively complex. He drew attention to the existence, in the case both of the eye and of the ear, of differences of stimuli which were not under any circumstances represented by any differences of sensation : the non-perception of these could not be explained by inhibition.

*Prof. Ebbinghaus* and *Prof. Sully* laid stress on the difference between ideational and sensorial inhibition, which Prof. Heymans was disposed to minimise. In connexion with this *Dr. Mendelsohn* drew attention to the importance of distinguishing simultaneous from successive application of stimuli in this kind of experiment. *Dr. Titchener* remarked on the rarity of the occurrence of the judgment "equal" in Prof. Heymans' experiments, and suggested that this might be due to the reagents' knowledge of the method and its difficulties.

A paper by Dr. VERRIEST on the "Physiological Basis of Rhythmic Speech," and a paper by M. BINET—who was absent—on the "Psychology of Insects," were also read.

The proceedings on Wednesday afternoon commenced with a paper by Prof. BALDWIN, which aimed at showing that Will takes its rise in childhood as a phenomenon of persistent imitative suggestion. This conclusion was primarily based on experiments on the writer's own children and on other children. It was found that the earliest motor responses of the child to the stimulus of external sensation had no apparent imitative character ; and, for some time after imitation has appeared, the child is simply satisfied with its imperfect reproduction of movements seen, and the combination of deliberation with effort which characterises will does not yet manifest itself. It is when the child perceives the inadequacy of its copies of movements that persistent imitation appears—"the try, try again experience"—and in this will is first seen. This conclusion was further supported by experiments on adults, and by evidence from troubles of speech : the order of degeneration of the elements of the speech faculty being the reverse of that of its acquisition as determined by Prof. Baldwin's theory.

In the discussion that followed the opinion was expressed that Prof. Baldwin, while rightly drawing attention to imitation as an important factor in volitional development, had put too heavy a strain on it ; and attention was drawn to the limited sphere of imitation in the evolution of animal life.

Reports on the inquiry into the hallucinations of the sane, as carried on under the direction of Prof. Sidgwick in England, M. Marillier in France, and Prof. James in the United States, were then presented by Prof. SIDGWICK and M. MARILLIER. The results of the English collection were printed and distributed in a tabular form. They showed that of 17,000 persons taken at random, about one in ten—1689—remembered experiences of the kind inquired into. The number of experiences recorded was 1871, most of those who answered remembering only a single experience. Only in about one-sixteenth of the experiences was any degree of illness reported—the hallucinations of fever and madness having been excluded from the inquiry. The bearing of the facts ascertained on the hypothesis of telepathy was carefully considered.

The proceedings concluded with the reading by *M. Marillier* of a paper by Prof. BEAUNIS, who was unable to be present. The paper gave a detailed sketch of a "questionnaire psychologique individuel," of which the aim was to ascertain, by elaborate statistical inquiry, the connexion of different psychical characteristics with each other and with physiological conditions.

On Thursday morning, in Section A, Prof. Ebbinghaus presiding, Dr. E. B. TRICHENER gave an account of some experiments on the binocular effects of monocular stimulus; the result of which was to show the validity of Fechner's law of "binocular contrast," but to extend it by recognising a second (complementary) stage of the secondary image corresponding to the complementary phase of the primary image.

Dr. DONALDSON then communicated his anatomical observations on the brain of the well-known blind deaf-mute, Laura Dewey Bridgman, who died in 1889. The point of most interest was the thinness of the cortex, which was most marked in the areas for the defective senses, and, in the occipital region, specially marked on the *right* side, in the visual area as determined by the method of limited lesions. (It was explained that vision of the *left* eye had been completely lost at two years of age, whereas vision of the right eye was partially retained till the eighth year.) In the discussions that followed *Profs. Henschen* and *Schäfer* advocated caution in drawing inferences from lesions.

Dr. LEHMANN then gave the results of experiments on the relation between Respiration and Attention. He found, using the method of continuous registration, that the oscillations of attention were not directly caused, as Münsterberg had suggested, by the innervation of the respiratory muscles; further, by the method of momentary registration, he found that while what he called "das Aufzittern der Empfindung" occurred as frequently during expiration as during inspiration, it occurred but rarely during the pause between two breathings, and almost never when the effort of inspiration was at its height. He inferred that in the former case the relatively small pressure of blood in the brain, in the latter case the relatively great expenditure of energy in breathing, were conditions unfavourable to the production of conscious sensation. In the discussion that followed, *Dr. Martius* and *Prof. Schäfer* expressed doubts as to the reference of this effect to the diminution of blood-pressure.

A paper by Dr. GOLDSCHIEDER, who was not able to be present, giving the results of experiments on the muscular sense of the blind, was then read by *Prof. Ebbinghaus*. The chief results were:—

That blind persons, who are practised in the exercise of the sense of touch, show almost universally a demonstrable increase of delicacy in their sensations of passive movements in the joints of the hands and fingers.

That the cause of this increased delicacy is psychical; it is due

to sharpening of the attention and practice in turning sensible indications to account.

That the skin-sense of locality in the blind shows only a slight, and not always demonstrable, increase of delicacy.

That feeling of movement is the most important factor in the cognition of forms through touch.

In the discussion that followed, Prof. Ebbinghaus referred, by way of analogy, to the established fact that the extraordinary keenness of vision of the savage, in recognising objects at a great distance, did not rest on any superiority of discriminative retinal sensibility, but was the result of exceptional interest and practice.

On Thursday afternoon Dr. LIGHTNER WITMER gave the results of experiments on the æsthetic value of the mathematical proportions of simple figures. His method was to take a number of series of very simple figures—*e.g.*, one series of crosses, another of parallelograms, &c.—arranged so that the mathematical proportions of the figures in each series increased regularly from 1 : 5 (or some larger number) to 1 : 1; the æsthetic pleasure or displeasure caused by each figure to each of a number of different persons was then ascertained and recorded. The result was that—putting aside the pleasing proportion of 1 : 1 or “perfect symmetry”—the “relative pleasing quality of all mathematical proportions can be expressed by a curve which rises from 1 : 5 first rapidly, then more slowly, to a maximum between 1 : 2 and 2 : 3, and then falls more rapidly than it rose to a proportion close to 1 : 1”. The average of all results placed the maximum of this curve near the ratio known as the “golden section”; still, the experiments did not support Zeising’s view that the æsthetic value of the most pleasing proportion depends on the mathematical properties of this ratio.

In the discussion that followed Dr. Witmer explained that his curve gave negative as well as positive values.

Papers followed by Dr. WALLASCHEK on “The Effect of Natural Selection on the Development of Music,” in which stress was laid on the social utility of primitive music, as facilitating association in important common actions, such as war and hunting; and by Prof. Von TSCHISCH on “The Relation of Reaction-time to the Breadth of Perception”.

It was then agreed that the next Congress should be held in Munich in 1896, under the presidency (it was hoped) of Prof. Stumpf, Dr. Freiherr v. Schrenck-Notzing being nominated as secretary.

A committee was appointed to consider the desirability of holding an extraordinary meeting next year in America.

The Congress was then brought to a harmonious close, with votes of thanks, and expressions of satisfaction on the part of the visitors.

Pressure of time prevented the papers of two absent members—Prof. Lange and Prof. Münsterberg—from being read; but a full abstract of each will appear in the Report of the Congress, which will be published in October or November.

Section B of the International Congress of Experimental Psychology was devoted to the discussion of ‘hypnotism and phenomena cognate to those of hypnotism’. The attendance of members of the Congress was large, the number present sometimes reaching two hundred, many of whom were foreigners. The bulk of the papers read came from well-known French savants—MM. Bernheim, Liébeault, Liégeois, Pierre Janet, Bérillon. The Belgian Prof. Delbeuf also read a communication in French. One German, Prof. Hitzig, read a paper in English, and so did one Dutchman, Dr. van Eeden. Dr. Milne Bramwell showed and

explained some experiments; and papers were read by Mrs. Sidgwick and by Mr. Myers. Prof. Ebbinghaus of Berlin, Prof. Mendelssohn of St. Petersburg, Dr. Sperling of Berlin, Dr. Freiherr von Schrenck-Notzing of Munich, the President, and others took part in the discussions.

These names seem fairly representative of the study and practice of hypnotism at the present moment, and although the papers covered a wide range, the growth of certain general tendencies, as compared with the Congress held in Paris three years since, might be plainly noted. Speaking broadly, there was a tendency to greater agreement as to fact, and to greater diffidence as to theory.

I. In the first place, as to the actual observed facts of hypnotism, there is now a more universal admission of the *therapeutic advantage* derivable from hypnotic suggestion. The former doubt as to this beneficial action was mainly connected with the view, now rapidly losing ground, that hypnotism was in itself a form of hysteria, and likely to induce other forms. It still remains impossible to doubt that injudicious hypnotism may do serious harm; but the mishaps thus far recorded have been fewer than was probably expected in any quarter. On the other hand, many of the cures effected by suggestion have now had time to prove their permanence. Although it was not with these therapeutic uses of hypnotism that the Congress was primarily concerned, some remarkable cures were recorded. Dr. Liébeault's paper described the complete cure of a case of suicidal monomania. Prof. Delboeuf described the permanent relief, by external suggestion and self-suggestion, of a high public functionary, who had been rendered miserable for twenty years by morbid apprehensions, and of a young mother obsessed by a continual insane impulse to murder her husband and children. Dr. Bérillon, in a paper on the use of hypnotic suggestion in education, described the cure by this means of many persistent bad habits which neither punishment nor medical treatment had been able to check. Prof. Hitzig gave a detailed history of an obstinate case of 'attaques de sommeil,' cured by suggestion adroitly made during the transitional state at the onset of the attack. And Dr. van Eeden of Amsterdam summarised the experience of five years' successful practice of 'psycho-therapy'.

II. Along with this fuller agreement as to the desirability of frequent use of hypnotic suggestion in medical practice, went a general recognition of the important fact that susceptibility to hypnotic suggestion is not in itself an indication of hysteria, or of any morbid condition whatever, in the subject. The school of Nancy, of course, have all along been sound on this point; and the strong assertions of Bernheim were here supported by the experience of the Parisian Bérillon, who maintained that 'contrary to the current opinion' (now current in certain small groups alone) 'the difficulties of inducing profound trance are greater in proportion as the child presents more decided traces of neuropathic heredity. Robust and healthy children are usually very suggestible and very hypnotisable. Their hypnotic sleep closely resembles normal sleep; but nevertheless simple suggestion will obtain from them while in this state all the ordinary hypnotic phenomena, as forgetfulness on awakening, negative hallucinations, suggested dreams, the automatic accomplishment of suggested acts.'

III. A third conviction to which independent experience was seen to have led many observers, is that of the great importance of *self-suggestion* in all forms of psycho-therapy. Dr. van Eeden laid almost exclusive stress on what the patient could accomplish for himself, by resolute effort of will, if properly guided and encouraged by his physician. Prof. Delboeuf insisted that (for instance) the cure of the magistrate, above

referred to, was effected merely by a firmer reliance on his own powers of will; by the intensification, that is to say, of a moral process entirely normal, and not really dependent upon assistance from without. Carried away by his growing sense of the essential power of the patient's own will, and the comparative superficiality of the aid afforded by hypnotic artifice, the eminent professor of Liège went so far as to exclaim that 'all there was in hypnotism was the word hypnotism itself'.

IV. But such a dictum is of course not a solution, but only a displacement of difficulties. This great and growing mass of phenomena, these new powers over the organism, these unheard-of effects for good and ill, depend upon something deeper than the mere invention of a name. When Prof. Bernheim asserted that the hypnotic trance was neither more nor less than ordinary sleep, it was well replied by Dr. Sperling that to define thus is simply to add to the conception of common sleep—already mysterious enough—a number of fresh mysteries which you do nothing to explain. The true meaning indeed of this refusal fairly to face the problems of hypnotism is that men of experience are coming to feel that those problems do not really form an isolated group, but are dependent upon some deeper facts in the constitution of man on which neither physiology nor psychology as yet feel themselves prepared to enter. Nor is this change in attitude a thing to be deplored. For a time, indeed, the baffled sense that we are dealing with forces beyond our reach may induce some barrenness in hypnotic discussions. But it is at least a clear gain to have got absolutely beyond such premature and abortive synthesis as the reduction of 'le grand hypnotisme' to the 'three stages' of Salpêtrière exhibitions, or any of those *quasi*-physiological deductions of all hypnotic phenomena from hypothetical changes in cerebral circulation.

The downfall of the Salpêtrière theory is now utter and absolute; and those who predicted its downfall in the very height of its renown—who all along insisted that that famous scheme was nothing more than a Procrustean attempt to force a whole world of psychological phenomena, normal in themselves, and profoundly significant, into the bed of a hystero-epileptical patient—those, I say, who thus saw beyond superficial analogies and clinical prejudices have been justified more rapidly and more completely than could ten years ago have possibly been foreseen.

In the public mind, which must have something definite to lay hold of, a formula can only be ousted by a formula; but it was well that the formula of suggestion, which replaced the formula of 'le grand hypnotisme,' was in itself so indeterminate and unexplained, so capable of adjustment to almost any phenomena which might arise. Yet in its turn it is now being recognised as insufficient. However defined, it will not (for example) cover the cases where the hypnotic subject is told to do something which he cannot ordinarily do, and which the suggester in no way teaches him how to perform. One of the most interesting of the papers in the hypnotic section was an account by Prof. Delbœuf of the appreciation of time by certain somnambules, their power of measuring time-intervals which in their normal state they could not even approximately determine. 'M. Delbœuf,' as the *résumé* of his paper significantly tells us, 'draws no further conclusion from his experiments, except that we have here a subject worthy of study.'

In the same direction lie the experiments of Prof. Ribot, carried out with Dr. Wizel's aid, in the attempt to discover '*l'état immédiat de l'esprit au moment où un concept est pensé*', the image, so to say, generated in the mind by the sudden injection of an abstract idea. 'The highest concepts, such as cause, relation, infinity, excite in most

men's minds no representative image whatever. The mental state which corresponds to these concepts is an *unconscious* one. In the hope of penetrating into the nature of this unconscious state, Dr. Wizel has interrogated certain hysterical patients, first in the hypnotic and then in the waking state. In the somnambulic state their answers are clearer, fuller, more explicit than in the waking state.'

A step—a long step—forward along this little-explored road is marked by Mrs. Sidgwick's paper on Experiments in Thought-Transference, mainly made on hypnotised subjects. On this I shall only say that the gulf between these and other hypnotic experiments—a gulf which once seemed impassable—may now perhaps be more reasonably regarded, not as impassable, but only as profound.

V. I will conclude by some reference to a paper in which both fact and theory were to a great extent novel. I refer to Prof. Pierre Janet's 'Study of certain cases of antegressive amnesia in the malady of psychological disintegration'.

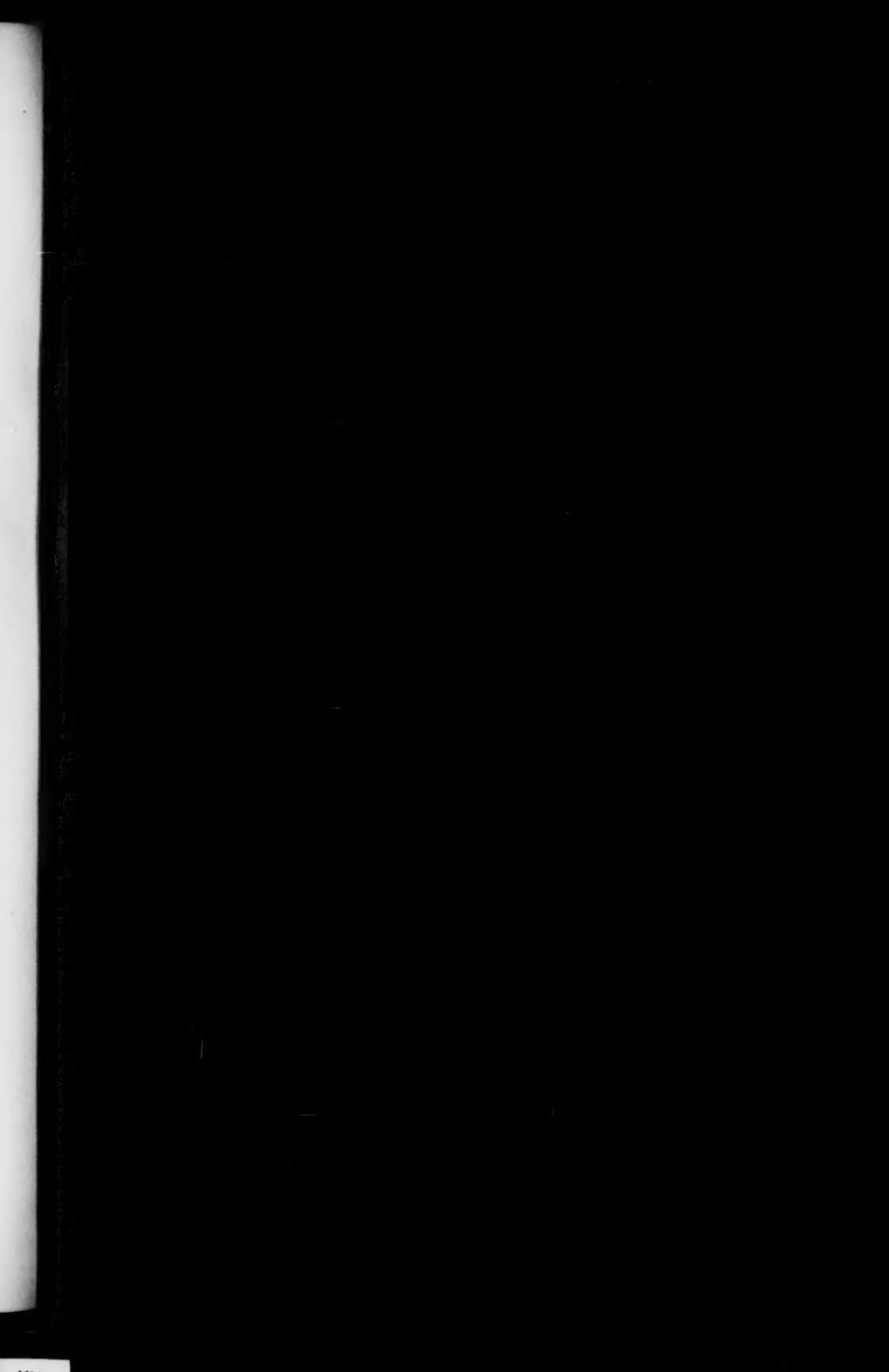
The theme with which M. Janet is here concerned is that of the disintegration of human personality. He shows that the enfeebled personality may lose the power of assimilating any *memories* of current events. After a severe shock, for instance, there may supervene not only a *retrogressive* amnesia, or *ecmnesia*, a blotting out from memory of some period *before* the accident, but also a continued or *antegressive* amnesia, that is to say, an incapacity of remembering events *succeeding* the accident.

In the present paper, M. Janet has shown, by several examples, that the memories which appear not to be formed are in fact formed; that they exist somewhere in the patient's mind with the full vividness of ordinary recollections, and that they may spontaneously crop up in dreams, or may be called out by hypnotic suggestion, or by other artifices.

**EDITORIAL.** — Mr. Herbert Spencer, as one of the seventy-four subscribers to the Croom Robertson Testimonial, desires that remark should here be made upon an expression in the letter, sent to Prof. Robertson, that was printed in the July MIND. Though sent with the names of all the subscribers appended, the letter, as drawn up by a committee of two or three, could not, for various reasons, be circulated for signature. Mr. Spencer takes exception to the phrase "the original founders of the Review," which seems to rob Prof. Bain of the exclusive merit he had in originally starting MIND and bearing the whole financial responsibility of it during its first sixteen years. The expression was not fortunately chosen; but we are assured by those who perused it that nothing could be farther from their thoughts than to question Prof. Bain's standing in relation to the original series of MIND. This was authoritatively put on record, once for all, by the late Editor in the valedictory remarks with which he closed last year's volume. At the same time, we gladly here make note, again, of the fact as now recalled by Mr. Spencer.

**We regret to have to announce the death of Prof. G. C. Robertson, the late Editor of "Mind". An obituary notice will appear in our next.**

<sup>1</sup> The chief facts of the case on which this paper mainly turns have been given in English in the *Proceedings of the Society for Psychical Research*, part x xii. p. 379.





MSS. and other Communications for the Editor should now be addressed  
to Mr. G. F. STOUT, St. John's College, Cambridge.

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# MIND

A QUARTERLY REVIEW  
OF  
PSYCHOLOGY AND PHILOSOPHY.

EDITED BY

G. F. STOUT,

WITH THE CO-OPERATION OF PROFESSOR H. SIDGWICK, PROFESSOR W.  
WALLACE, DR. VENN, AND DR. WARD.

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